

# CENTRAL PATENTS INDEX CLASSIFIED ALERTING BULLETIN

WEEK D02  
25 FEBRUARY 81  
00758D - 02017D

## ABSTRACTS

## INDEXES

II - PATENTEE

V - BASIC NUMBER

VII - PATENT NUMBER

## Section D:

FOOD  
DETERGENTS

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COUNTRY	PUB DATE(S)	NUMBER RANGE
AUSTRIA	15 DEC 80	7,107,523 - 8,004,484
BELGIUM		
-Delayed	9 DEC - 17 DEC 80	883,711 - 883,875
-Non Delayed	16 DEC 80	884,817 - 884,904
-BTR	28 NOV 80	T000,090
BRAZIL	16 DEC 80	7,902,356 - 8,006,768
CANADA	2 DEC 80	1,090,501 - 1,090,950
DENMARK	8 DEC 80	7,803,874 - 8,002,063
FRANCE*	10 OCT 80 (BOPI 14 NOV 80)	2,451,152 - 2,451,698
UNITED KINGDOM	7 JAN 81	1,582,201 - 1,582,550 2,050,131 - 2,050,780
ISRAEL	30 NOV 80	44,439 - 59,021
JAPAN		
-Unexamined	—	47,030,546 - 55,006,549
	8 NOV - 10 NOV 80	55,143,000 - 55,144,200
-Examined	4 DEC - 10 DEC 80	80,048,081 - 80,049,240
NETHERLANDS	8 DEC - 14 DEC 80	7,904,372 - 8,003,360
NORWAY	8 DEC 80	7,901,559 - 8,003,129
PORTUGAL	12 DEC 80	65,563 - 71,472
SWEDEN	8 DEC 80	7,902,241 - 8,007,518
SOVIET UNION	—	732,303 - 733,916
UNITED STATES		
-Reissues	16 DEC 80	Re30,445 - Re30,452
	23 DEC 80	Re30,453 - Re30,460
-Patents	16 DEC 80	4,238,857 - 4,240,156
	23 DEC 80	4,240,157 - 4,241,456
PCT	11 DEC 80	8,002,634 - 8,002,786
	24 DEC 80	8,002,787 - 8,002,902

\*Printed patents actually published mid November - Late November, 1980



## Arrangement of Abstracts

See Appendix I for definition of 'Major' and 'Minor' Countries.

'MAJOR' COUNTRIES – An alerting abstract of every basic and examined equivalent document is provided except for equivalents from Canada, East Germany, Sweden and Switzerland. The abstracts are arranged in CPI class order and within any one of the 135 classes are in country and patent number order.

'MINOR' COUNTRIES – Basic headings are included in sequence with the entries from the 'Major' countries.

## CPI Section Headings

See inside cover for further details.

A	Polymer Chemistry	F	Textiles, Paper, Cellulose
AE	Polymer & General Chemistry	G	Printing, Coating, Photographic Chemistry
A+	Polymer Applns.	H	Petroleum
B	Pharmaceuticals	J	Chemical Engineering
C	Agricultural Chemistry	K	Nucleonics, Explosives, Protection
D	Food, Disinfectants, Detergents	L	Refractories, Ceramics
E	General Chemistry	M	Metallurgy
E+	General Chemistry Applns.		

## Typical Abstract Heading

See CPI/WPI Instruction Manual No. 1A for explanation of the various flagged descriptors.

Patentee Code		Main CPI Class for Section		Patent No	
Patentee Name		Latest Priority		Earliest Priority	
Other Classes		Earliest Disclosure Basic Patent		IPC	
Publication Date		Accession No			
MEDA-	A89	69369W/42	=US 3964-992		
Chamber and process for 2-way electrophoresis - for seph. of very small samples of body fluids (SE28.7.75)					
MEDAC GES KLINISCHE 11.10.74-DE-448552 (31.12.73-DE-365284)					
B04 J03 R16 (22.06.76) *FR2256-410 G01n-27/26					

Copies of Specifications may be ordered from our PATENTS SUPPLY DIVISION.





# DERWENT PATENTS SERVICES

## 1981 INSTRUCTION CLASSES QUESTIONNAIRE

It is proposed to hold a series of centralised or localised instruction classes in the period from June to November 1981 at locations which will be determined according to demand. A minimum of 5 participants will be required for each class.

The classes that will be offered are as follows:

Elementary A Coding (IC2)	<i>A two day course for new users of CPI Section A codes, covering basic principles and discussion of examples. Max. 20 participants.</i>
Elementary BCE Coding (IC3)	<i>A two day course for new users of CPI Sections BC &amp; E codes with special reference to the New Chemical Code, again with discussion of examples. Max. 20 participants.</i>
Advanced A Coding (IC4)	<i>A two day course for those with previous training and experience of the CPI Section A codes. Max. 20 participants.</i>
Advanced BCE Coding (IC5)	<i>A two day course for those with previous training and experience of CPI Sections BC &amp; E codes, with special reference to the New Chemical Code and coverage of complex examples. Max. 20 participants.</i>
Online User Instruction and General Overview (IC6)	<i>A one day course giving in-depth treatment of all access points except special coding, together with formulation of strategy and "hands-on" experience. A general overview of Derwent and its Patents products will also be given. Max. 20 participants.</i>
Advanced Online Searching (IC7)	<i>A one day course demonstrating the use of special coding concepts and other search parameters in the formulation of search logic to retrieve specific subjects or chemical structures. Max. 10 participants.</i>

Cost per person for these classes is: IC2 through IC5 and IC7 £50 or \$120; IC6 £35 or \$85.

Subscribers wishing to participate in these classes are requested to complete the questionnaire overleaf and **return it to Derwent not later than 31st March 1981**. A schedule will then be drawn up following analysis of the replies.

### Request for User Aids

Instruction Manuals		No. sets required
(£5, \$12, ¥3000 each including postage).		
No. 1	CPI/EPI GENERAL (INC ONLINE)	.....
No. 2	CPI/WPI COMPANY/MANUAL CODES	.....
No. 3	CPI CHEMICAL RETRIEVAL	.....
No. 4	PLASDOC RETRIEVAL	.....

Derwent Brochures (free of charge)	No. sets required
---------------------------------------	----------------------

CPI	.....
WPI	.....
WPA	.....
EPI	.....
ONLINE	.....



Type of Instruction Required

Number of Participants

Elementary A Coding (IC2)

☐

Elementary BCE Coding (IC3)

☐

Advanced A Coding (IC4)

☐

Advanced BCE Coding (IC5)

☐

Online User Instruction  
and General Overview (IC6)

☐

Advanced Online Searching (IC7)

☐

Preferred Location(s) .....

Dates to be Avoided .....

Please write or type in BLOCK LETTERS

Your Name and Company

Name ..... Position ..... Department .....

Company .....

Address .....

Principal Contact ..... Telephone ..... Post Code .....

Signed ..... Telex .....



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# D1: FOOD; FERMENTATION

17 MAR 1981

C.F.T.R.I., MYSORE

## D11: BAKING

**D11**  
Elevator for loading and discharging oven shelves - via horizontal platform vertically displaceable on pillars fixed on the base frame

SINAGE REVISIONS 31.01.79-FR-002495

38 (03.10.80) A21b-03/07 B66f-09/20

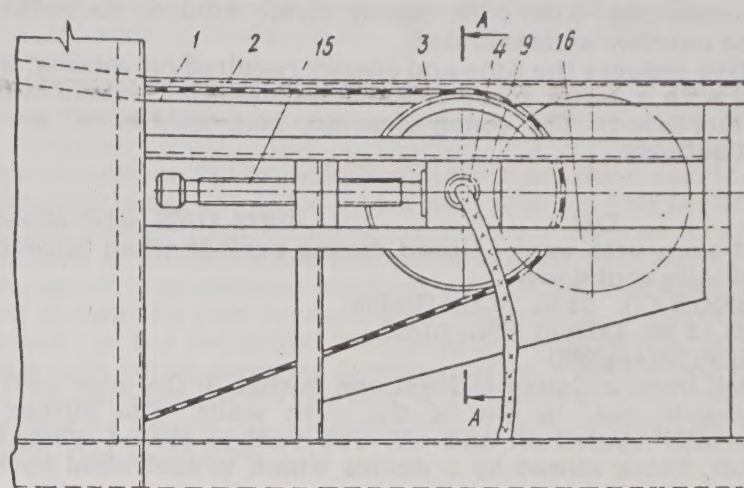
79 as 002495 (16pp448)

Elevator can vertically adjust a horizontal platform to selected heights at which the platform serves for loading and discharging to and from oven shelves. The elevator is of the type in which lifting mechanism and platform are carried on and above a angular base frame, pref. mobile on ground wheels.

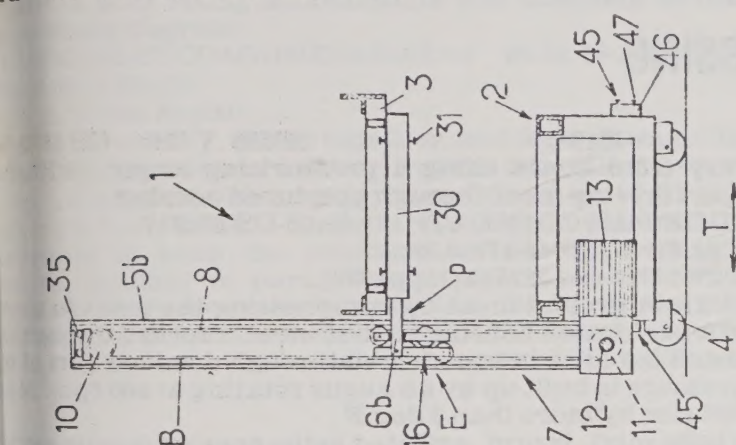
The base frame now has a pair of vertical pillars rising from the ends at one end of the rectangular frame. Each pillar serves as a guide for the vertical displacement of one of a pair of parallel, lever arms extending over the frame at right angles to the pillars. Each arm is fixed to an endless, drive transmission chain running on sprockets top and bottom of the pillars.

This design is simpler, more robust and easier to service than previous elevators of this type. It can be readily adapted for work on a wide variety of bakery ovens.

00832 D/02 ★FR 2447-884



Φ<sub>U2.1</sub>



**D11**  
Proving chamber with bucket conveyor for dough lumps - max. prod. capacity for restricted space bakery

ULIEN M 16.03.79-FR-007092

14.11.80) A21c-09 A21c-13 A21d-08/02 A21d-13

79 as 007092 (7pp448)

Bakery proving chamber with an electrically powered continuous conveyor with suspended buckets for carrying dough lumps etc.. The chamber conveyor is electrically synchronised with feed and discharge mechanisms and is provided with emergency stop circuit. The electric circuitry is centralised in a single control panel on the side of the machine. The chamber space can be isolated from the surrounding atmos., pref. by means of an aluminium partition which opens over and closes the loading/discharge opening.

The machine is designed to offer max. capacity/occupied vol., e.g. 259 dough pieces each of wt. between 400 g and 700 g in a machine of total vol. 2.8 cubic metres. The machine is therefore well suited to bakehouses where space is restricted. The machine is easily dismantled for thorough cleaning and maintenance.

00835 D/02 ★FR 2451-165

**D11**  
Baking oven with uniform heating of movable mesh bottom - tensioning drum containing electric heaters, with heat transmission through drum

IEV ORGPISHCHEPROM 01.03.78-SU-587105

8.05.80) A21b-01/22

78 as 587105 5pp29)

Baking oven in which the heating is more uniform over the bottom of the oven bottom with better temperature control. The oven consists of a mesh conveyor, tensioning drum with hollow shaft and movable in a horizontal direction as the dough blanks are fed, with supports on which flexible cables are mounted feeding electric heaters, and holder for the shaft and the journals; the holder is made with tubes disposed coaxially to the journals; the tubes have radial openings. The electric heaters are placed inside the drum uniformly around its circumference with the ends of the tubes engaged in the openings of the holder. Bushes of insulating material are placed between the tubes and journals.

01314 D/02 ★SU -733-597

**D11**  
TUPI/ ★ Dough pieces loader for conveyor in bread-baking oven - has dividing head fed by screw extruder which fills suspended buckets, these being tipped to fill the moulds

TUPITSIN II 27.07.77-SU-514050

(18.05.80) A21b-03/07

27.07.77 as 514050 add to 195396 (4pp29)

Equipment for packing dough blanks into moulds, fastened to the cradles of a bread-oven conveyor, Parent Cert.195396, which incorporated a dough-dividing machine with screw dough supplier to the drum-type divider, and chain conveyor to which the suspension carriers were fastened. The dough blanks are more accurately oriented relative to the moulds by installing a motor/ reduction gearing to guarantee individual drive for a cam mechanism. A stop strip is positioned along the working arms of the conveyor, which can move vertically. Dough division is made more accurate by installing guiding plates and flanges at the unloading point. The end of the loading screw is made with a double flight in which the screw pitch here equals one half of the pitch in the other part of the screw.

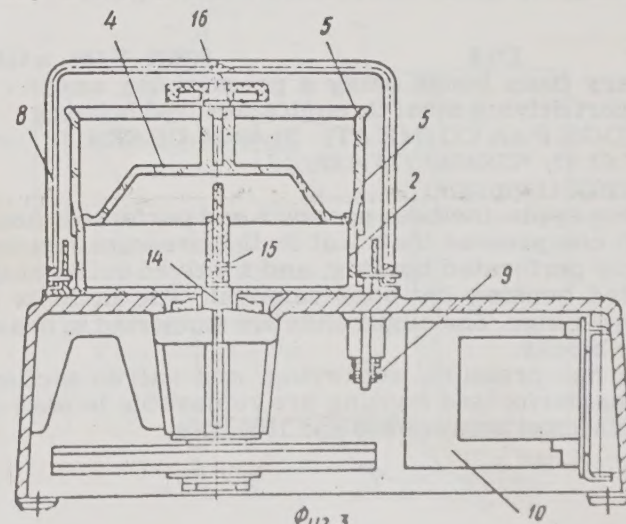
**D11**  
GRAI= ★ Laboratory dough mixer - has mixer head in form of rectangle and two trapeziums, inside pan with adjustable height covers

GRAIN PRODS RES 23.12.77-SU-558863

(18.05.80) A21c-01/02

23.12.77 as 558863 (6pp29)

Laboratory dough mixer, which can be used in a variety of locations, has body, pan with cover, inside which is a vertical shaft with mixing unit attached, and motor. To increase safety during operation of the mixer, the cover is made removable and the pan is fitted with an extra set of covers. Catches are fastened to the inner wall of the pan throughout its height so that the respective cover can be installed, with the end wall and the bottom made detachable. The mixing unit made as a rectangle and two trapeziums- the base of the lower trapezium being larger than that of the upper trapezium. The construction is done by welding the parts from stainless steel to make for easy cleaning.



Φ<sub>U2.3</sub>



**INTT ★ D11 01576 D/02 ★ US 4239-783**  
 Redn. of mixing time of yeast leavened bread doughs - by addn. of small amt. of sorbic acid or its salts  
**INT TELEPH & TELEG CORP 18.11.77-US-852834 (17.05.76-US-687048)**  
 (16.12.80) A21d-02/14  
 18.11.77 as 852834 (5pp955)  
 In the prepn of a yeast leavened dough by straight dough or the sponge and dough processes, by mixing 100 pts flour, 50-70 pts water and yeast leavening, 0.001-0.015 pts of sorbic acid or its sodium, potassium or calcium salts is added.  
 The additive reduces the time and energy required for mixing, and gives prods with a softer more relaxed texture, Pan vols of white bread are increased. The concn of sorbic acid used is too low to affect yeast activity.

**RAYT ★ D11 01672 D/02 ★ US 4240-397**  
 Gas-fuelled oven with vent - closed during periods when burner is thermostatically shut down  
**RAYTHEON CO 24.01.79-US-006135**  
**Q74 (23.12.80) A21b-01 F24c-15/32**  
 24.01.79 as 006135 (8pp295)  
 A gas-fuelled oven includes at least one burner in the oven cavity, and an exhaust vent in one of the oven walls. The burner is thermostatically cycled on and off. The vent is closed when the burner is off, being closed by a device which is controlled by the cycling mechanism.

Pref. the gas supply is controlled by a valve which is connected to the vent closing device for operation concurrently with burner operation.

The apparatus minimises fuel consumption as the oven is vented to atmos. during periods when the burner is off, and the length of time the burner remains off is increased.

**STBR ★ D11 01866 D/02 ★ US 4241-398**  
 Tortillas which remain flexible on storage - contg. added vital gluten and a hydrophilic gum  
**STANDARD BRANDS INC 29.05.79-US-042827**  
 (23.12.80) A21d-08 A21d-13  
 29.05.79 as 042827 (3pp955)  
 Tortillas are prepd. from wheat flour, water and fat, with the addition of 1-2 wt.% hydrophilic gum and 3-4 wt.% vital wheat gluten on wt. of flour.  
 Bread making flour contg. 12-13% protein is suitable. The e.g. lard. Suitable gums include karaya gum, locust bean gum, tragacanth and esp. guar gum. Pref. 1% gum and 4% glut used. The combination is synergistic.

See Also

D13 SU733600

## D12: MEAT; FISH PROCESSING

**PROS- ★ D12 01790 D/02 ★ AT 7900-156**  
 Injection device for meat pickling brine  
**PROSENBAUER & CO 09.01.79-AT-000156**  
 (15.12.80) A23b-04/02

**ORTN/ ★ D12 01801 D/02 ★ AT 8001-149**  
 Meat salting device  
**ORTNER J A 03.03.80-AT-001149**  
 (15.12.80) A23b-04/02

**ELRO ★ D12 00783 D/02 ★ BE -884-704**  
 Butchers powered tool for cleaving meat carcass - with oscillating blade guided by elements engaging longitudinal features of spinal column

**ELKEM-SPIGERVERKET 10.08.79-NO-002603**  
 (01.12.80) A22b

08.08.80 as 884704 (13pp448)  
 Powered tool cleaves a carcass of meat longitudinally along the axis of the spinal column. The cutting is done by a blade, pivoted at one end and oscillated by a power device, e.g. a pneumatic cylinder, at the free end of the blade. The tool is provided with a handle at the pivoted end of the blade.

The tool is pref. guided along the spinal column by elements with longitudinal channels and/or splines of the column. In partic. the blade is preceded by a coplanar guide lodged in the groove of the inside of the column. On the other side of the column, two wheels are sprung symmetrically on either side of the central ridge.

A further guiding element may take the form of a needle, pref. with forked end, which enters and tracks along the rachial channel.

Used as a butchers cleaving tool for splitting carcasses of meat, partic. pork. The cleaving is carried out cleanly without splinters of bone which could be dangerous. Accurate centering of the blade is ensured by using the spinal column as a positive guide.

**KART- ★ D12 60886 Y/34 = GB 1582-542**  
 Meat recovery from bones using a pressurising auger - with full bearing support driving meat through apertured housing  
**KARTRIDGE PAK CO (MEAT) 31.03.76-US-672317**  
**P41 (07.01.81) \*US4042-176 A22c-17**

22.03.77 as 012030 (13pp1376)

Meat deboning appts. includes pressure and perforated housings, an auger which compresses the meat in the pressure housing before transfer to the perforated housing, and a valved outlet at the end of the perforated housing for bone removal. The meat is squeezed through the openings. The auger ends are supported in bearings on a pair of pillow blocks.

The auger has pressure, conveying, and valved sections which along with the perforated housing are removable to ease cleaning. The auger rotates at between 500 and 1800 rpm.

**KART- ★ D12 60886 Y/34 = GB 1582-542**  
 Meat recovery from bones using a pressurising auger - with bearing support driving meat through apertured housing

**KARTRIDGE PAK CO (MEAT) 31.03.76-US-672317**

**P41 (07.01.81) \*US4042-176 A22c-17**

22.03.77 as 032551 Div ex 1582542 (11pp1376)

Bone is sepd. from ground meat by compressing the meat to 10000 psig. in a perforated housing so that meat is forced through perforations and the bone is transferred through a valved partition. The pressure is built up by an auger rotating at 500 rpm. Temp. does not rise by more than 3 deg.F.

The meat/bone mixt. is pref. agitated in the housing/auger to improve sepn.

Parent patent claims the appts.

**NIPK ★ D12 01181 D/02 ★ J8 0000**  
 Colouring of meat - by addn. of nicotinic acid and dihydroxyacetone and heating

**NIPPON KAYAKU KK 06.11.73-JP-124739**

**E13 (E17) (08.12.80) A231-01/27**

06.11.73 as 124739 (2pp22)

Nicotinic acid and dihydroxyacetone are added to animal followed by heat treatment. By this method a fresh colour given to the meat without damaging of its taste and flavour. (J50071863)

**KURE ★ D12 01182 D/02 ★ J8 0000**  
 Processed fish or animal meat prepn. - by adding nicotinic acid, L-cystine and/or L-algin and ascorbic acid and/or erythroic acid to meat

**KUREHA CHEM IND KK 16.01.74-JP-007015**

**E19 (08.12.80) A231-01/27**

16.01.74 as 007015 (5pp22)

In prepn. of processed fish or animal meat prod. (a) nicotinic acid, (b) L-cystine and/or L-algin, and (c) ascorbic acid and/or erythroic acid are added to meat.

The meat can be coloured without using nitrous acid or its salts. (J50100258).

**KOLL/ ★ D12 01254 D/02 ★ PT - 0000**  
 Terminal mfr. from pressed worm-shaped sleeve material - electric motor driven, rotatable axially movable mandrel pressed against material

**KOLLROSS G 30.06.79-DE-926543**

**V04 X25 Q31 (12.12.80) A22c B65b**

**MATT- ★ D12 01254 D/02 ★ PT - 0000**  
 Mfg. foodstuffs with solid interior and cover - by extruding material, compress cover then cutting to length

**MATTHEWS B LTD 28.06.79-GB-022452**

**P71 Q31 (12.12.80) B30b B65b**



ME = ★ D12 01318 D/02 ★ SU-733-603  
Removal of blood from slaughtered animals - by conveying in sterile  
to bleeding point, preparing skin, and inserting needle into heart

OSC MEAT IND MFG (EPID =) 30.03.78-SU-598558  
(15.05.80) A22b-05 A61b-17  
78 as 598558 (3pp29)

ding slaughtered animals, as used in the food, microbiological,  
pharmaceutical industries, by inserting a drainage device into  
heart cavity and removing the blood while, at the same time,  
clamping the aorta, so as to intensify the process and retain the  
quality of the product.

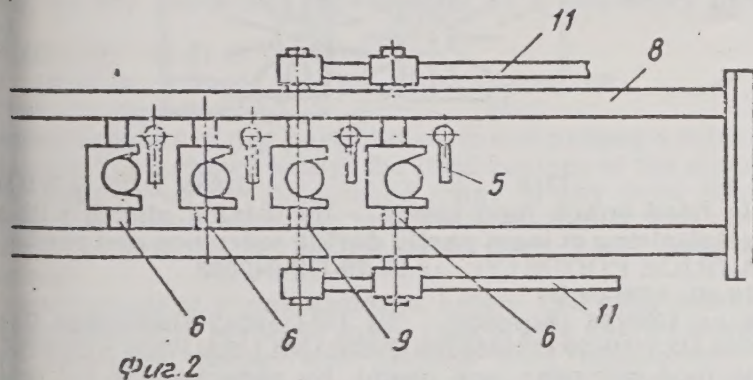
After stunning the animal using an electric current, the carcass is  
placed on a suspension track to the point of bleeding. It is  
placed in a sterile toilet box with an excess air pressure, and  
subjected to hygienic treatment with hot water (36 + 2 deg.C)  
containing an antiseptic additive. The left side of the thoracic cage is  
shaved over an area of 50 x 100mm and, after washing with hot  
water, it is sterilised with an alcoholic solution of iodine.

The carcass is transferred into another box and again the shaved  
area is treated with the iodine solution. It is opened with a sterile  
needle, a sterile needle is inserted and a drainage tube is connected;  
the other end of the tube terminates in a collecting vessel filled with  
nitrogen. As the blood flows from the heart cavity the nitrogen is  
placed. Complete drainage takes 10 minutes resulting in 1.2 litres of  
blood. This is centrifuged in an inert atmosphere. Bul.18/15.5.80.

MS = ★ D12 01319 D/02 ★ SU-733-604  
Conveying, grouping and loading equipment for sausage-like items -  
holders with fixing attachments and brackets to turn holders  
through ninety degrees

MURMANSK MEAT COMBINE (MEAT =) 06.02.78-SU-577251  
(15.05.80) A22c-11  
78 as 577251 (3pp29)

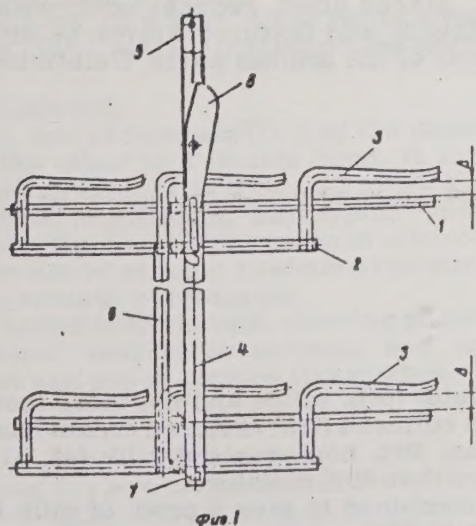
Equipment to convey, group together, and load sausage-like articles  
into a coagulator into a heating installation, without damaging the  
articles, includes a holder with guides and drive. Additional holders,  
having a horizontal U-shape, are equipped with rotatable fixing  
attachments to keep the sausages inside the holders. These are  
connected together in parallel, and paired brackets are fitted to  
connect the holders from the vertical into the horizontal position. The  
pivot of one bracket is connected to the pivot of the previous  
bracket, and the end of the other is connected to the pivot of the  
holder.



ME = ★ D12 01320 D/02 ★ SU-733-605  
Stage suspension frame for poultry carcasses - has movable  
stationary parts which are moved by double-armed bracket and  
drive bird wings

MOLT MEAT MACH WKS 18.01.78-SU-571303  
(15.05.80) A22c-21  
78 as 571303 (4pp29)

Stage suspension for fastening poultry carcasses to the hangers  
on a conveyor, while they are passed through a bath for contact



Each stage of which comprises stationary and movable  
horizontal frames, connecting rods for each pair of similar frames,

and fixing element. The suspension is automatically returned to its  
original position after discarding the carcasses by making the fixing  
element as a double-armed bracket with a link hinged on one  
arm. The other end is thickened and fastened to the connecting rod,  
reinforcing the stationary frame. The free end of the link is fastened  
to the movable frame of the upper stage.

MURM = ★ D12 01321 D/02 ★ SU-733-606  
Fishing boats fish catch receiver - has centrifugal roe remover  
located before chamber for fish designated for fodder use

MURMANSK GIPRORYBFL 06.07.77-SU-504438  
(20.05.80) A22c-25  
06.07.77 as 504438 (4pp962)

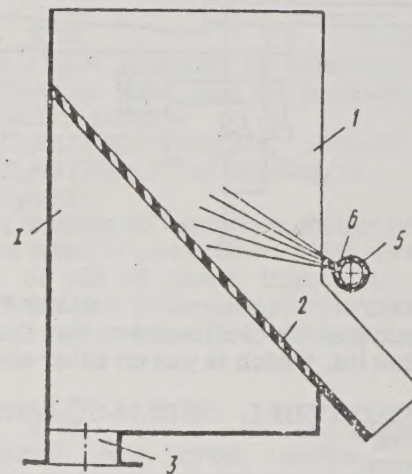
Receiver for industrial fishing vessels, esp. factory ships, comprises  
catch transfer mechanism connected via hydro-transporter to  
various chambers. These include chamber in which fish for human  
consumption is accumulated and a chamber for fish destined to be  
turned into fodder meal. Washing mechanisms are also included.

To ensure collection of fish roe, which is separated during transfer  
and transport to processing stations, water separators are included,  
located before the fish accumulation chambers. A concentrator is  
connected to the washing mechanisms, separators, and a roe  
washing unit, which removes foreign matter. A centrifugal extractor  
which separates roe from the fish, is connected to the concentrator  
and is located before the chamber where fish destined for fodder is  
collected. Bul.18/15.5.80.

FARE = ★ D12 01322 D/02 ★ SU-733-607  
Fish orienting mechanism - has sloping perforated trough through  
which air rises under pressure, and water jets impinging on its front

FARE DALTEKHRYBPRO 25.10.77-SU-537074  
(20.05.80) A22c-25/12  
25.10.77 as 537074 (2pp29)

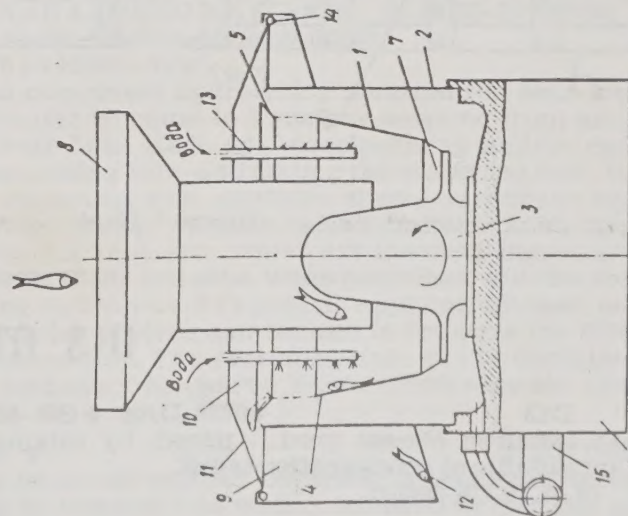
Equipment for orienting fish head first, has inclined perforated  
trough, chamber and system supplying working agent under  
pressure. The trough is installed inside the chamber and is divided  
into upper and lower sections. The working agent is air, which is  
blown in as jets from below. The channels in the bottom of the trough  
are set at an angle opposite to travel



MURM = ★ D12 01323 D/02 ★ SU-733-608  
Fish-roo extractor using centrifugal force - has funnel coaxial with  
vertical rotor, and catcher with sloping base and repelling cover

MURMANSK GIPRORYBFL 19.12.77-SU-557367  
(20.05.80) A22c-25/14  
19.12.77 as 557367 (3pp29)

Roe extraction equipment, for use with small fish in both shore and  
ship installations, by the application of centrifugal force, including a  
conical filtering rotor, receiving funnel, spray-attachment inside the



rotor, and fish catcher. Productivity is increased by making the  
loading and unloading more uniform, by positioning the rotor

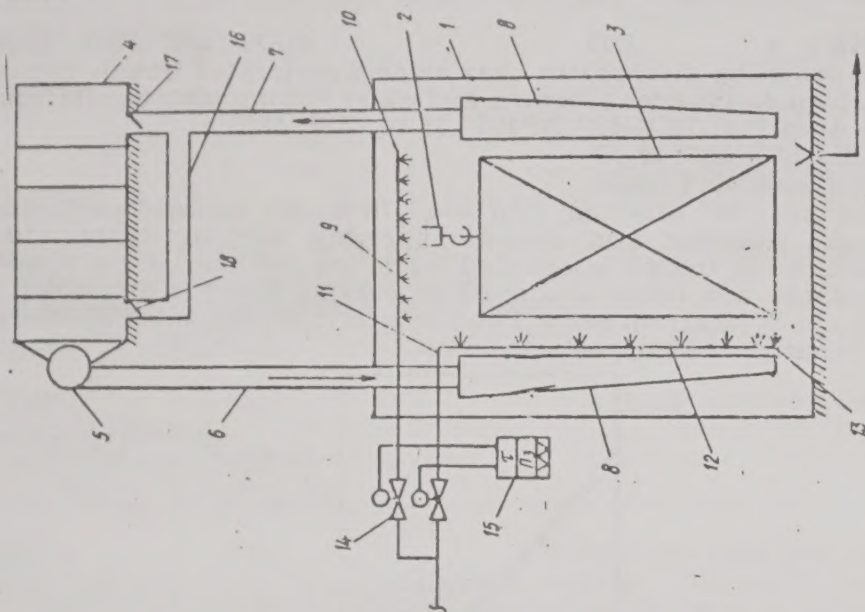


vertically, placing the funnel coaxial to it, with the catcher made as a cylinder surrounding the body and having sloping base and a repelling cover. The funnel is movable axially to control the amount of fish admitted and the catcher is fitted with a sprayer.

**MOMD ★ D12 01324 D/02 ★ SU-733-609**  
Sausage-like articles heat-treating equipment - has sprayers to inject finely-dispersed water into airflow to reduce temperature by evaporation

**MOSCOW MEAT DAIRY INST 14.11.77-SU-544023**  
(20.05.80) A23b-04/04

14.11.77 as 544023 (3pp29)  
Sausage-like articles heat-treating equipment, has heat-insulated chamber with doors and suspension tracks, conditioner with fan, plus feed and exhaust air ducts having rectangular cross-section and perforated panels. Productivity is increased and heat-treatment is intensified by fitting attachments to clean and cool the sausages, with a time relay and control mechanisms automatically switched in and out. The exhaust duct from the fan has control slide valves and is connected to the main exhaust pipe. The cooler is in the top part of the chamber and has vertical pipelines mounted between the rows of holes in the panels. These lines have fine spray nozzles. The cleaning attachment is above the level of the cooler and has sprayers, the active cross-section of which is greater than that of the fine-spray nozzles.

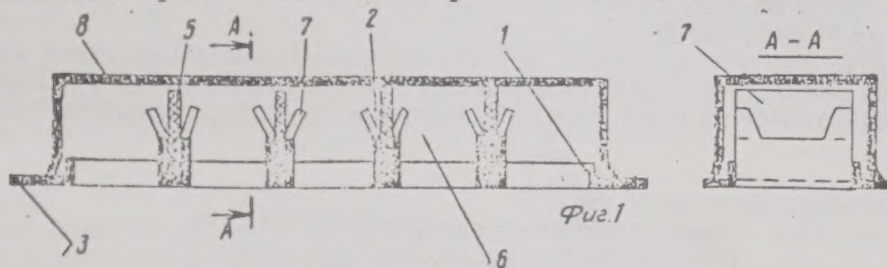


**MURM = ★ D12 01326 D/02 ★ SU-733-611**  
Fish batcher for small fish blocks freezer - has frame with dividers inserted into slots, plus lid, which is put on after compartments have been filled

**MURMANSK GIPRORYBFL 20.02.78-SU-583238**  
(20.05.80) A23b-04/06

20.02.78 as 583238 (3pp29)

Batcher which forms smaller blocks (e.g. of small fish) prior to freezing, has frame with dividers which can be removed from the slots which house them to facilitate the operation. The mould only operates during the shaping process - it is not involved during the freezing. Thus, the number of frames used is reduced to the minimum required to make the required number of blocks.



**ROTH/ ★ D12 01577 D/02 ★ US**  
Jerky strips mfr. - from blended ingredients extruded onto drum as sheet subsequently cut into strips

**ROTHEN 15.11.78-US-960936**  
(16.12.80) A23b-04/02 A231-01/31

15.11.78 as 960936 (6pp295)

Jerky is mfd by grinding the ingredients to an ex consistency. This is blended with curing agents and season the mixt is applied onto the heat transfer surface of a refr rotating drum. It is formed into a sheet of uniform thickness cools to form a solidified sheet suitable for cutting. The removed from the drum and cut into individual strips wh transported through a drier to remove excess moisture.

The jerky is mfd rapidly from beef or other meats and include vegetable prods such as processed soy beans.

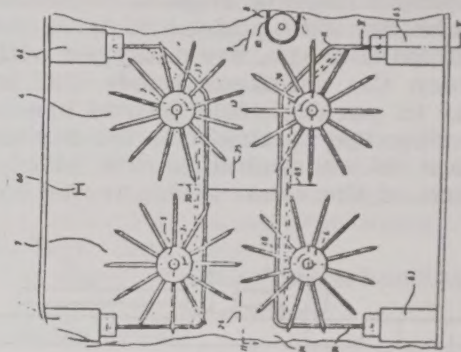
**SOMM/ ★ D12 01940 D/02 ★ WP**  
Meat salting machine - with two pairs of needle rollers f actuated brine injection

**SOMMER H 22.05.80-DE-019483 (05.06.79-DE-922714)**  
(11.12.80) A23b-04/02

04.06.80 as E00035 (+19.12.79-DE-951033) (27pp39) (G) FR DE2700125 FR2318588 GB-862307 FR2274227 N(JP US) E(AT FR GB NL SE)

A machine for the salting of pieces of meat consists of a c which feeds the meat in the horizontal gap of two pairs of rollers. Two are mounted on a spring-loaded bracket on each the gap. The hubs carrying the follow needles revolv stationary hollow spindle which supplies the brine into t between hub bore and spindle. A flat on the spindle allows the bore to be uncovered only when the needles have penetra meat..

This results in a quick and uniform injection of brine requires no vacuum. Loss of brine is eliminated and the meat adhe added fat, flavour and colouring.



**BEAF ★ D12 01985 D/02 ★ WP**  
Puffable fried snack food prodn. - by mixing starch with parts, gelatinising at least partly during extrusion and puffin

**BEATRICE FOODS CO 18.06.79-US-049063**  
(24.12.80) A231-01/31

18.06.80 as U00796 (36pp200) (E) US4119742 US2907660 US US4140803 US3769029 US2855309 US3851081 US3447929 N(BR DI Puffable food compsns. are prepd. by reducing the fat cor dried animal parts, passing the defatted animal parts thro extruder under high temp. and pressure to form a mouldable extruding to a shape-sustaining form and cutting into portion novelty comprises (1) mixing the animal parts with 10-75 (pre 55) wt. % starch, based on starch and animal parts, (2) keep extruder at a temp. at which the starch and opt. the animal pa at least partially gelatinised, pref. 210-350 (esp. 250-330) deg. (3) cutting. The mixt. fed to the extruder contains 10-35% m and less than 15% fat..

The prods. are food snacks having the taste, texture and fried pork skins. Starch addn. reduces costs without reduc fried pork skin flavour and texture. Starch gelatinising pro are similar to those of the animal parts. Gelatinisation para can be extended.

See Also

D13 J80048790

## D13: OTHER FOODSTUFFS

**KRAFT ★ D13 00788 D/02 ★ BE-884-818**  
Cream based soft textured cheese prod. - prepd. by mixing two preparations, is spreadable at refrigeration temp.

**KRAFT INC 15.08.79-US-066613**  
(16.12.80) A23c

18.08.80 as 884818 (36pp597)

The prod., comprises (a) 25-75% of a cultured cream based cheese prepn. comprising at least 30% substantially non-homogenised milk

fat, at least 40% total milk solids and not more than 60% moi and (b) 25-75% of a cultured firm textured cream based cheese comprising at least 30% homogenised milk fat, at least 40% solids and not more than 60% moisture.

(a) and (b) are combined to give a prod. of milk fat content least 33% and up to 55% moisture content. The prod. has a threshold of at least 2500 at 7 deg.C and at least 75% of tot content is centrifuge separable. The prod. is prepd. by form



(a), pasteurising and culturing to obtain a prepn. of pH5.2 or and then mixing (a) with (b) followed by packing at a temp. of at 65.5 deg.C.  
e prod. has the required flavour and standards of soft cheese being spreadable at low temp. Its prepn. is easily controlled.

**B ★ D13 00873 D/02 ★GB 1582-319**  
fruit content jam substitute - contg. sugar and pectin to raise soluble solids content, does not need cooking  
ADBURY TYPHOO LTD 04.02.78-GB-004575  
7.01.81) A231-01/06  
78 as 004575 (4pp955)

readable fruit prod is prepd by adding 5-20 wt% fruit based on wt tal compsn, to a sugar soln, and sufficient pectin and acid to in the required set, to give a mixt having a total soluble solids ent of 55-75 wt%, and pasteurising the mixt. The fruit is reduced ze to allow penetration of sugar soln under the mild treatment itions.

e prod. is a jam substitute. It has an excellent flavour, closer to flavour of the fresh fruit than conventional jam, as volatiles are riven off by prolonged boiling. The raw material costs are less, less energy is required for cooking the compsn. Fruit not ble for jam e.g bananas, can be used. Conventional jam- ing equipment can be used.

**I D13 04345 A/03 = GB 1582-397**  
stuff based on brewer's yeast - contains an organic acid, esp. ionic acid and is esp. suitable for pigs (NL 3.1.78)  
ASF AG 30.06.76-DE-629268  
03 (07.01.81) \*DE2629-268 A23k-01/06  
77 as 027173 (6pp964)

supplement for monogastric animals comprises liq. brewers' t contg. 0.5-4 wt.% based on the yeast of an added nitrogen-free, r organic acid. Specifically the organic acid is formic, acetic, ionic and/or acrylic acid; 1 wt.% propionic acid is esp. used. unboiled liq. brewers' yeast contg. 8-18 or 23-25 wt.% solids is

e supplement is used esp. for pigs. It provides high amt. of stible protein, net energy, utilisable vitamins and minerals out causing diarrhoea in young pigs.

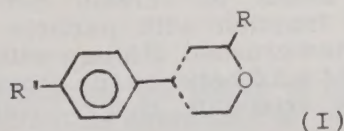
**A ★ D13 00880 D/02 ★GB 1582-451**  
ninant feed supplement contg. delactosed whey - and lipid erial, as dry particles, provides fat in a non-bulky form (DK 78)  
OLAC LTD 05.01.77-GB-000211  
03 (07.01.81) A23c-11/02 A23c-21/04 A23k-01/08  
77 as ----- (3pp476)

element consists of dry particles each comprising a mixt of lipid erial and "delactosed whey, the lipid content of the supplement g at least 40 wt%. Delactosed whey is any prod formed by action of lactose from whey to have a residual lactose content of than 65 wt% of the dry solids, dried whey itself contg. at least lactose.

e requirement of young animals, before and after weaning, for contg total lipid levels of more than 5 wt% can be satisfied by ed feedstuffs contg. the present feed supplement. The eement delactosed whey waste prod and provides a dry, non- y prod convenient for handling. The delactosed whey itutes a carrier which is relatively high in nutritional value and roportion of lipid in the supplement may be as high as 70 wt% or higher without the lip apparently being expressed during al production of pelleted feedstuffs. The supplement tends to elatively quickly through the rumen.

**D13 13743 A/07 = GB 1582-459**  
yl-4-phenyl-di:hydro:pyran derivs. - used as flavour and aroma ves in smoking tobacco prods.  
T FLAVORS & FRAGR INC 12.04.76-US-676389  
3 P15 (D18 D21) (07.01.81) \*US4071-034 C07d-309/18 + A231- 22  
77 as 014669 (19pp965)

pyran derivs. are of formula (I). 1 of the dashed lines is a C-C bond and the other is a double bond. R is 2-4C alkyl, pref. ppyl, ethyl or isobutyl. R' is H or 1-3C alkyl. Pref. (I) are added to tobacco prods. in a sufficient amt. (pref. 50-5000(100)ppm.) to ent or enhance the flavour or aroma of tobacco. Pref. its use is ined with the use of at least 1 tobacco flavouring additive e.g. l, aldehydes, acetals, pyrroles etc.  
may also be added to foodstuffs, chewing gums and toothpastes g green, floral, neroli-like aromas, and neroli-like, green able, jasmine and peach-lactone-like nuances.



**WRIL D13 65304 A/37 = GB 1582-499**  
Chewing gum for stimulating saliva flow, esp. for athletes - comprises gum base, sweetener, flavourant, fructose, and adipic ascorbic, citric, fumaric, lactic, malic or tartaric acid  
WRIGLEY W JR CO 26.09.77-US-836383  
E17 (07.01.81) \*BE-864-665 A23g-03  
29.03.78 as 012261 (4pp982)

Chewing gum compsn. comprises gum base, a sweetener, flavouring additives, a palatable, safe organic acid selected from adipic acid, ascorbic acid, citric acid, fumaric acid, lactic acid, malic acid and tartaric acid. The acid stimulates salivation beyond that due to chewing food and constitutes at least 3 wt.% of the gum compsn. The compsn. also contains at least 10 (10-70) wt.% of fructose.

Pref. the sweetener is dextrose and the compsn. contains up to 4 wt.% of Na or K salts. The cottonmouth condition experienced when chewing conventional gums is avoided. Body salts lost due to perspiration can be partly replaced. Compsn. has improved shelf life.

**MAZN ★ D13 01015 D/02 ★J5 5143-920**  
Liq. branched chain satd. higher aliphatic poly:ol - useful as surfactant, emulsifying agent, and antibacterial agent  
MARUZEN OIL KK 27.04.79-JP-053246  
B05 E17 (10.11.80) A231-03/34 B01f-17/38 C07c-29/48 C07c-31/18  
27.04.79 as 053246 (14pp75)

Liquid branched chain satd. higher aliphatic polyol of formula A-CH<sub>2</sub>-CH<sub>2</sub>-CE'B-CH<sub>2</sub>-D (I) is new. In (I) A is CH<sub>3</sub>(CH<sub>2</sub>)<sub>n</sub>-CH(CH<sub>3</sub>) or CH<sub>3</sub>(CH<sub>2</sub>)<sub>n</sub>+2 (where n is 0 or 1); B is H or CH<sub>3</sub>; D is -CFG-(CH<sub>2</sub>)<sub>n</sub>-CH<sub>3</sub>; F is -CH<sub>2</sub>OH, -OH or -CH<sub>3</sub>, and when F is -CH<sub>2</sub>OH, G is H or -OH, and when F is OH, G is -CH<sub>3</sub>, and when F is -CH<sub>3</sub>, G is H; and E and E' are, when F is -CH<sub>2</sub>OH and G is -OH, respectively selected from H and -OH, and when F is -CH<sub>2</sub>OH and G is H and when F is -OH, either of E and E' is -OH, and when F is -CH<sub>3</sub>, both E and E' are -OH.

(I) are useful as surfactants, emulsifying agents for liq. paraffin, fat and oil, etc. This shows remarkable antibacterial and bactericidal activity against Gram-positive and Gram-negative bacteria. They may be used as a food additive.

**YOKG ★ D13 01151 D/02 ★J8 0048-254**  
Determin. of ozone concn. in water by polarographic method - using as reagent a carboxylic acid and its ammonium salt mixt., e.g. acetic acid, ammonium acetate  
YOKOGAWA ELECTRIC WKS KK 16.04.75-JP-045306  
E36 J04 (04.12.80) G01n-27/48 G01n-33/18  
16.04.75 as 045306 (4pp83)

Method comprises adding to sample a water reagent (I) which has carboxyl group and NH<sub>4</sub>(+), no unsaturation, is not oxidised by O<sub>3</sub> to give buffer soln. of pH of more than 2 in acidic region, and determining O<sub>3</sub> concn. by polarographic method. (I) is e.g. acetic acid-ammonium acetate mixt, citric acid-ammonium citrate mixt, etc. (J51120790).

**SNOW ★ D13 01180 D/02 ★J8 0048-775**  
Freezable processed egg prod. prepn. - involves adding methoxylated pectin to fresh egg and processing  
SNOW BRAND MILK PRODUCTS 17.02.73-JP-018878  
A97 (08.12.80) A23b-05/04  
17.02.73 as 018878 (3pp22)

To fresh egg is added 0.05-2 wt.% of low methoxylated pectin, and the mixture is processed. The product can be stored frozen without damage to its taste and flavour. (J49108267).

**TAKA- D13 83953 Y/47 = J8 0048-779**  
Improving taste and flavour of foods - using seasoning soln. obtd. by hydrolysing defatted red bran and/or tiger bran with enzyme(s)  
TAKARA SHUZO KK (TAKR) 06.04.76-JP-039061  
(08.12.80) \*J52122-678 A231-01/23  
06.04.76 as 039061 (6pp)

Method comprises hydrolysing defatted red bran and/or tiger bran with greater or equal to 1 enzyme selected from amylase, rice Koji and wheat bran Koji; opt. decolourising and/or concentrating the obtd. seasoning soln. and adding the seasoning soln. to foods.

The seasoning soln. contains phenol-carboxylic acid derivs. such as ferulic acid, vanillic acid, caffeic acid, p-cumaric acid, phenylacetic acid, etc., which are the tasty ingredients of mirin and very sweet foods are obtd. when combined with the soln.

During hydrolysis it is pref. to apply proteinase, cellulase, lipase, etc. to utilise protein and fat and to improve the filterability of the decomposed soln. The seasoning soln. can be combined in soy sauce, amino acid-soy, bean paste, 'mirin', fruit wine etc. (J52122678).

**YAMA- ★ D13 01183 D/02 ★J8 0048-788**  
Drying foodstuff without adversely affecting taste and flavour - by heating to remove free water, microwave heating, cooling and air-drying  
YAMAUMI KK 21.01.76-JP-006470  
(08.12.80) A231-03  
21.01.76 as 006470 (9pp22)



Foodstuff is (a) heated to remove free water; (b) heated by microwave technique at 120-180 deg.C; and (c) cooled and air-dried. Taste and flavour are not effected. (J52090641).

**DAME/ D13 42562 U/30 = J8 0048-790**  
Preserving food - by treating with a preserving agent after immersion in a glycol

DAMESAR H A (DAM) 23.08.71-US-174191

E17 (D12) (08.12.80) \*J48028-652 + A23b-04/14 A23b-07/15 A231-03/34

23.08.72 as 083809 (+ 23.8.71-US-174191) (5pp)

Method comprises (a) immersing the food in 1,3-butylene glycol or propylene glycol while the foods contain cellular moisture; (b) during immersion dehydrating the food and simultaneously permeating the treating into the food and (c) removing the food and removing residual and excess glycol affording a preservable food contg. 2.0-10wt.% glycol.

Decrease of net wt. of the food in the treating process is 20-80% max. size of the piece is 1.27mm; max. distance between food and treating agent is not more than 12.7 mm; the treating agent contains at least 5% soluble osmotic-pressure modifier which is sugar or salt; the treating agent contains moisture absorber chosen from methanol and glycerol; treating time is less than 1 hr; the treatment with glycol is continued, until no noticeable changes in total wt. and moisture content of the food occur. Food is fish, meat, fruit or vegetable protein. Treated food is preservable at room temp. for months. (J48028652).

**YAMS D13 72944 X/39 = J8 0048-795**  
5'-Nucleotides useful as seasoning agents or pharmaceuticals - prepd from oligonucleotides with 2'-5' phosphodiester bonds

YAMASA SHOYU KK 05.02.75-JP-014444

B03 E11 (B02) (08.12.80) \*J51091-394 + C12p-19/32

05.02.75 as 014444 (6pp)

Oligonucleotides with 2',5'-phosphodiester bonds are treated with 5'-phosphodiesterase which breaks down the 2',5'-phosphodiester bonds. Prodn. of 5'-nucleotides from commercially available yeast RNA is inhibited by the presence of 2',5'-phosphodiester bonds which resist attack by nuclease P1 of *Penicillium citrinum*.

-Phosphodiesterase with the ability to break -phosphodiester bonds has now been discovered in certain strains of *Aspergillus niger*, which provides a useful method for the prepn. of 51-nucleotides, which are used as pharmaceuticals and seasoning cpds. (J51091394).

**SANU- D13 37014 X/20 = J8 0049-006**  
Table salt with low potassium content - prepd from sea water, with addn of e.g. sodium salt, calcium salt, etc.

SANUKI ENGYO KK 30.09.74-JP-111583

(09.12.80) \*J51038-437 C01d-03/06

30.09.74 as 111583 (7pp)

The process comprises treating sea water with an ion-exchange film and crystallising the salt by cong. the water in a multiple effect evaporator. The improvement comprises adding a soln. of at least 1 of sodium salt, calcium salt and magnesium salt to the conc. salt water in the evaporator serving as the major crystalliser, and crystallising salt exclusively in the evaporator. (J51038437)

**LEZH ★ D13 01313 D/02 ★SU-733-592**  
Silkworm productivity enhancement with chemical stimulants - using alpha-solanine and alpha-chaconine to increase resistance to adverse conditions

LENINGRAD ZHDANOV UNIV 20.11.78-SU-685722

C03 E17 F01 P14 (17.05.80) A01k-67/04

20.11.78 as 685722 6pp1439).

An increase in the yield of mulberry silkworm cocoons can be achieved by the use of chemicals to stimulate silkworm growth. The method is improved by using alpha-solanine and alpha-chaconine as stimulants. The latter are sprayed on mulberry leaves in the form of water solns. at a rate of 25 ml. of soln. per 100 grams of feed.

In experiments, the stimulants gave an increased silkworm weight when fed on healthy leaves, resistance to insufficient feeding and low quality leaves, and resistance to cold. Bul.18/15.5.80.

**FOOD = ★ D13 01317 D/02 ★SU-733-600**  
Charger for confectionery and bread baking ovens - has receiving and feeding rollers bearing truncated conical pulleys pointing in opposite ways

FOOD IND CORRESP 15.12.77-SU-553361

(D11) (15.05.80) A21c-09/08

15.12.77 as 553361 5pp29)

Semifinished food blanks charger, used in the confectionery and bread-baking industry, consists of two conveyors, one of which is made with receiving and transferring rollers with endless elastic belts arranged in rows between them. Pulleys, in the form of truncated cones, are fastened to the rollers in such a way that the smaller base of each pulley of the transfer roller points away from the centre line of the conveyor. The smaller bases of the pulleys on the receiving rollers point towards the centre line. The ratio of the distance between the two rollers is 1:60, the relation of the angles of

slope of the rollers exceeding 1-3 deg. The ratio of the between the pulleys on the transfer roller to the mean diameter of the pulley is within the limits 1:4 to 1:10.

**BUTT = ★ D13 01328 D/02 ★SU**  
Pepsin determination in milk-curdling preparations - by ml phosphate buffer at stated pH and comparing curdling t standard pepsin solution

BUTTER CHEESE IND 16.02.78-SU-579439

S03 X25 (20.05.80) A23c-19/02 G01n-33/16

16.02.78 as 579439 (3pp29)

Determination of amount of pepsin in milk-curdling prep used in the production of cheese, and controlling its qu injecting standard and studied ferments into the milk and the time taken for the milk to curdle in each case, w calculation of the fermenting agent. Accuracy is increased l curine pepsin as the standard and inhibiting the ferments by them for 5-15 mins in a phosphate buffer at pH 7.4 and 40-43. The pepsin content(X) is determined in terms of the time t the milk to curdle under the effects of the pepsin(T1) and t taken under the effects of the unknown curdling preparati viz. X = T1.100/T2. Bul.18/15.5.80.

**GPOL = ★ D13 01329 D/02 ★SU**  
Processing green leaf tea - with cutting carried out before for uniformity of mass

GEOR POLY(TEAI = ) 31.01.78-SU-575696

(20.05.80) A23f-03

31.01.78 as 575696 2pp29)

Green leaf tea preparation, to improve its quality, by cl freezing, thawing, fermenting and drying; doing the stage order reduces the preparation cycle, and also impro homogeneity of the mass. This is because the conditions transfer, etc. during the freezing and thawing are simplifi there is a reduction in the utilisation of cold and heat per unit product.

**ODSU = ★ D13 01330 D/02 ★SU**  
Juice extraction from apples - by electro-plasmolysis of from first pressing, with a second pressing

ODESS SUPPLY MACH 05.10.77-SU-532735

(20.05.80) A231-02/02

05.10.77 as 532735 (2pp29)

Juice extraction from vegetable raw material, e.g. apples food industry, by pulping the apples, treating by electroplas and pressing. The yield of juice and its quality are incre pressing directly after pulping, subjecting the solids residu plasmolysis, and finally pressing a second time. Pressures 180 atm are used and the plasmolysis is carried out in an elect with a gradient of 40V/cm over 0.5 sec.

**GFOO = ★ D13 01345 D/02 ★SU**  
Food or perfume rotary mixer - has two sets of tooth meshing together, with peripheral holes and baffles to preven (juice) passing through

GEOR FOOD IND RES 03.04.78-SU-596740

J02 (18.05.80) B01f-07/26

03.04.78 as 596740 Add to 617057 (2pp29)

Rotary mixer, for the food and perfume industries, accor Parent Cert.617057, in which the stator was made of tooth fastened inside the body throughout its height. The rot consisted of toothed discs on a shaft, with the two sets meshing together. Partitions with holes around the periphe placed between the fixed and movable discs. In the improved productivity is increased by installing baffles at the rotor in outlet to prevent leakage of the processed material.

**FATS = ★ D13 01347 D/02 ★SU**  
Soya bean sepn. from impurities - by bean conditioning to humidity, specified fraction sepn. and subsequent crushing

FATS RES INST(USSU = ) 13.09.77-SU-534265

P41 (17.05.80) B02b-01 B02c-04/08

13.09.77 as 534265 (3pp110)

The method is used to separate soya beans from impurities can be employed in oil and fats prodn. industries. The me specifically used to separate Xanthium and D.Strumarium from the soya beans. The method is carried out by crushing rollers with differential of 1.5-2.5 and subsequent crushed pro. In order to improve the sepn. efficiency, to simplify the proc reduce the energy consumption, the original beans are cond to humidity of 9-13% at 10-60 deg. C.

After conditioning the beans to certain humidity the fractionated with sepn. of fraction with particle size of mm. The above fraction is then crushed. Rollers with groove of 3-4.5mm and a distance of 1.5 3.0 between the grooves are u the fraction crushing. The crushing rollers rotate at 1 rev/min. Bul.18/15.5.80.



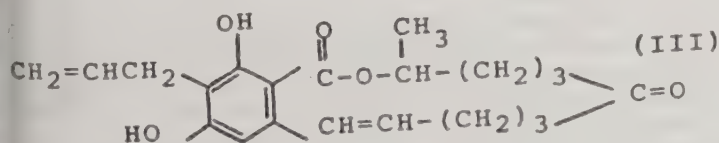
**D13** 01348 D/02 ★SU-733-723  
barley production - grain is moistened dehusked, polished  
times, sieved to remove fines and flour, and graded by size  
AIN PRODS RES 30.12.77-SU-564006  
(17.05.80) B02b-01  
7 as 564006 (3pp29).  
barley production, by moistening the corn, dehussing,  
ng, sorting out the fines and the flour, and grading to produce  
nt fractions. The yield is increased and the process is  
ned by subjecting the grain to soaking for 8-10 mins after  
ning to 1.0-1.5%. Following each polishing stage the finer  
ns and the flour are taken out, using a No.27  
Bul.18/15.5.80.

**D13** 12937 C/08 = US 4238-997  
ntal rotary drum blanching appts. for hot brining  
kraut - improves efficiency of heat transfer by countercurrent  
rough several drums  
NGSTENBERG E (HENG) 12.10.78-DE-844430  
12.80) \*BE-879-362 A23b-07/06  
9 as 084281 (5pp1376)  
kraut blanching appts includes a series of rotatable perforated  
through which the sauerkraut passes in sequence, and a  
acle holding brine through which the sauerkraut travels in  
drum. The receptacle has spaced areas for brine, a drum  
ng in each area. The brine is heated during transfer from the  
of one drum to the inlet of the next.  
oughput of sauerkraut is increased.

**D13** 01426 D/02 ★US 4239-394  
analyser for determining fat content of milk - has homogeniser  
photometric measuring appts. contained in thermostatically  
olled body  
SS ELECA/S 08.04.77-SU-480802  
4 S03 X25 (16.12.80) G01n-21/\*  
78 as 894389 (8pp67)  
analysing appts. for determining the fat content of milk samples  
rises manually operated dosage piston pumps for mixing  
nt and liq. sample in a predetermined relationship and a  
ally operable homogeniser for providing homogenised mixture  
photometric measuring appts. for measuring a constituent of the  
le in the mixt. The homogeniser and photometric measuring  
are arranged within a thermostatically controlled heat  
active body.  
d for the analysis of small liq. samples. The appts. provides a  
e temp. control of the homogenised sample being measured.

**D13** 56404 B/31 = US 4239-750  
al feed mixt. for poultry, pigs, etc. - contg. proteolytic enzyme  
ncomycin or oleandomycin  
NKEL KG AUF AKTIEN 20.01.78-DE-802398  
3 C03 (C02) (16.12.80) \*DE2802-398 A23k-01/17  
9 as 004281 (4pp954)  
efficiency animal feed for chickens and pigs comprises  
hydrates, protein and fats and contains 1-250ppm of an  
otic i.e. lincomycin or oleandomycin, and a content of acid  
lytic enzymes of a wide spectrum of activity between pH 2.5  
5 in an amt. such that the enzymic activity is 0.05-2.5 mTU per  
animal feed.  
the antibiotic lincomycin is present in an amt. of 10-100ppm,  
eandomycin in 5-8ppm.

**D13** 88682 C/50 = US 4239-772  
al growth promoter zearalin derivs. - prepd. by reaction with  
alide and opt. Claisen rearrangement and/or hydrogenation of  
sulting 4-o-allyl cpd.  
MINERALS & CHEM CORP 30.05.79-US-043801  
2 C02 (16.12.80) \*DE3020-470 C07d-313 + A61k-31/36  
9 as 043801 (5pp918)  
ylzearalenone (I) is a new growth promoting cpd. 3-  
earalenone (II) 3-allyl-cis-zearalenone and 3-(1-  
zearalanone are also claimed.  
as formula (III), X is H and Y is CH<sub>2</sub>:CHCH<sub>2</sub>O-) and, (II) has  
ala (III), X is CH<sub>2</sub>:CHCH<sub>2</sub>-, and Y is OH).  
cpds. are growth promoting agents for e.g. ruminants and  
y.



**D13** 01575 D/02 ★US 4239-782  
ood for enhancing the colour of fish - contains a testosterone  
rganic pigmenting agent such as carotenoid(s)  
UATIC DIET TECHNO 16.04.79-US-029916  
3 (16.12.80) C12k-01  
9 as 029916 (3pp916)

Colour of new born fish is enhanced by feeding them with a  
proteinaceous fish food until they are five to eight weeks old and then  
with a food comprising proteins, carbohydrates fats, 0.003 to 0.018  
percent by wt testosterone and 0.5 to 1 percent by wt of an organic  
pigmenting agent. The pigmenting agents are carotenoids,  
canthaxanthine, lutein, apo-carotenal or marigold.

The presence of the testosterone enhances the effect of the  
pigmenting agent. Suitable testosterone derivs include 17 alpha-  
methyl testosterone and 17alpha-ethyl testosterone.

**FROM** **D13** 39849 Y/23 = US 4239-784  
Textured milk protein prod. - from dough contg. aq. casein  
suspension and whey protein, heat treated to cause reaction between  
the protein disulphide bridges

FROMAGERIES BEL SA 05.12.75-FR-037374  
(16.12.80) \*BE-849-050 A23j-03  
06.07.78 as 922450 (+17.11.76-US-742911) (8pp965)  
Preparation of food prods. from a hydrated paste based on milk  
proteins comprises moulding a paste (I) to make a texturised prod. in  
ribbon, fibre, granule or bit form. The paste is then thermally  
treated at 50-150 deg.C for a time sufficient, up to 3 hrs. to produce  
phosphocaseinate bridges between casein molecules.

The paste comprises an homogeneous mixt. prepd. from an aq.  
casein suspension, with milk protein content w.r.t. paste of 10-45%,  
water 35-85%, and, dry material 15%. The milk proteins contain  
enough P to form phosphocaseinate bridges. Pref. the paste also  
contains serum proteins in a ratio w.r.t. the casein of up to 6, and  
also in sufficient amt. to form disulphide bridges between the paste's  
protein in the thermal treatment stage.

The milk proteins are texturised by a simple and cheap device, to  
form a stable and infusible food prod.

**SCMZ** ★ **D13** 01578 D/02 ★US 4239-786  
Low fat coffee whitener - contg. sweetener, water-dispersible  
protein, and fluid shortening

SCM CORP 25.06.79-US-051994  
(16.12.80) A23c-11/02  
25.06.79 as 051994 (7pp478)  
A fluid compsn. useful as a coffee whitener is prepd. by metering a  
lipid system into a mixt of a sweetener, H<sub>2</sub>O-dispersible protein, and  
H<sub>2</sub>O.

The lipid system is a shortening (pumpable at room temp. but  
sufficiently stiff to resist phase sepn) consisting of a hydrogenated,  
beta-forming, mainly 16-18C fat (I) contg. (as stable suspension) a  
crystalline normally solid phase fat or fatty acid derived food  
stabiliser component (II) and an oil/H<sub>2</sub>O emulsifier (III). (I) is bland  
in flavour, has IV 85-100, and SFI (at 50 deg F) ca 10-18.

The whitener compsn. is pref. a spray-dried prod., and contains 21-  
50% shortening, 40-70% sweetener, and 4-6% protein (all dry wt.  
basis). The sweetener is pref mainly dry corn syrup solids; and the  
protein is soy protein, non-fat milk solids, etc.

The compsn. has good shelf life, and allows the use of much  
reduced fat levels.

**PENI-** **D13** 24010 B/13 = US 4239-852  
Detection of antibiotics in liquid samples e.g. milk, body fluid - by  
incubation with sensitive microorganism, incubation with marked  
substance, and determ. of marked cpd.

PENICILLIN ASSAYS INC (CHAR) 12.06.78-US-914414 (21.11.77-  
US-853541)

B04 J04 S03 (S05) (16.12.80) \*BE-872-177 + G01n-31/14  
12.06.78 as 914414 (9pp945)  
An antibiotic (I) in a liq. sample (II) is detected by first incubating  
the sample with cell parts (III) of a microorganism sensitive to (I) so  
that (I) molecules bind to receptor sites of (III). The mixt. is  
incubated with an enzyme lagged substance (IV) capable of binding  
with the receptor sites. (III) are then sepd. from the liq. and the amt.  
of (IV), associated with either (III) or the liq. is determined. This  
value is compared with a standard to obtain an indication of the  
presence of (I) in (II).

(II) is e.g. milk, meat extract or fermentation broth. The method is  
sensitive and fast, e.g. 0.001 I.U. of penicillin per ml. can be detected  
in under 10 minutes.

**BENC** **D13** 03828 C/03 = US 4239-922  
Poly:alcohol esp. xylitol prepn. - with decolouration and ion  
exchange of sugar solns. and poly:alcohol solns. in same ion  
exchange plant

BENCKISER-KNAPSACK 22.06.78-DE-827477  
E17 (D17) (16.12.80) \*EP---6-592 C07c-31/18  
13.06.79 as 048074 (8pp393)

Prodn. of xylitol comprises (a) decomposing the wood of deciduous  
trees or annual plants with dilute mineral acid at elevated temp. to  
give a soln. contg. xylose sugar with minor amts. of CH<sub>3</sub>COOH and  
mineral salts, (b) ion exchanging the soln. and decolourising it in the  
exchanger, (c) hydrogenating the sugar soln. to produce a  
polyalcohol soln. contg. mainly xylitol, (d) ion exchanging the soln.  
and (e) recovering xylitol from the soln. Steps (b) and (d) are effected  
in separate sugar and polyalcohol cycles in the same exchanger.

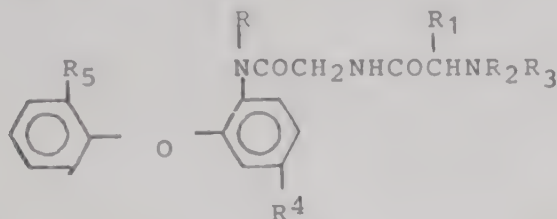
Process results in significant savings in investment costs,  
regeneration costs and evapn. costs.



**SHIO** **D13** **00113 X/01 = US 4240-957**  
 Aroyl-aryl-substd. dipeptides - with anxiolytic, sedative,  
 anticonvulsant, hypnotic and muscle-relaxant activity  
 SHIONOGI KK 06.08.74-JP-090566 (06.08.74-JP-090565)  
 B05 C03 E14 (B02 B03) (23.12.80) \*BE-832-190 C07c-103/52  
 07.03.77 as 775646 (11pp937)

Dipeptide derivs. of formula (I) and their acid salts (1) are useful as  
 anxiolytics, sedatives, anticonvulsives, hypnotics, muscle  
 relaxants. Specifically claimed cpds. include 2-benzoyl-4-chloro-N-  
 methyl-N alpha-L-phenylalanyl-glycinamide.

In (I) R is methyl, ethyl, isopropyl, butyl, pentyl, cyanomethyl,  
 cyanoethyl, cyanopropyl, cyanobutyl, dimethylaminoethyl,  
 diethylaminoethyl or diethylaminopropyl; R1 is H, methyl, ethyl,  
 isopropyl, butyl, pentyl, benzyl, phenethyl or phenylpropyl; R2 is H,  
 methyl, ethyl, isopropyl, butyl, pentyl, benzyl, phenethyl,  
 phenylpropyl, glycyl-glycyl or glycyl; R3 is H, methyl, ethyl,  
 isopropyl, butyl or pentyl; R4 is Cl; R5 is H, Cl or F.



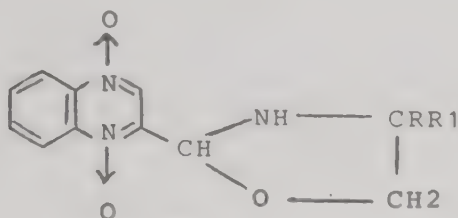
**INTM** **D13** **01840 D/02 ★ US 4241-061**  
 2-Oxazolidinyl-quinoxaline-1,4-dioxide derivs. - useful for improving  
 animal growth rate and feed efficiency

INT MINERALS & CHEM CORP 21.05.79-US-040833  
 B02 C02 (23.12.80) C07d-31/49 C07d-413/04  
 21.05.79 as 040833 (5pp1251)

Quinoxaline derivs. of formula (I) are new. R and R1 are H, methyl,  
 ethyl or hydroxymethyl. Also new is a method for promoting growth  
 of animals by incorporating (I) into their feed at 150-50g per ton.

Where R and R1 are H, methyl or hydroxymethyl; R is H and R1 is  
 methyl; or R is hydroxymethyl and R1 is H or methyl are specifically  
 claimed.

(I) improve growth rate and feed efficiency, esp. in broiler  
 chickens, turkeys and steers and are pref. used at about 100 g per  
 ton.



**DEGS** **D13** **46773 U/33 #US 4241-085**  
 N-acylmethionine feed additives - for ruminants to improve eg wool  
 prodn

DEUTSCHE GOLD & SILBER 04.02.72-DE-205210 (16.02.73-US-  
 330110)  
 C03 (23.12.80) \*BE-794-837 A61k-31/19  
 12.03.79 as 019406 Div.ex. 4093740 (3pp924)

Cattle having a paunch contg. a microflora of bacteria and protozoa  
 which normally breakdown added synthetic amino-acids, are fed  
 with fodder which goes to the paunch and contains an N-acyl-  
 methionine of formula (I) CH3-S-CH2-CH2-CH(NHCOR)COOH (where  
 R is 7-21C aliphatic hydrocarbon) as a source of methionine which is  
 not broken down in the paunch.

Pref. (I) is present in an amt. equiv. to 0.01-5% of methionine, and  
 is also fed in an amt. effective to increase the growth of the cattle.  
 Pref. the fodder includes grass. The fodder can be fed to other  
 ruminants e.g. sheep, goats, deer or antelope.

**BATT** **D13** **89608 A/49 = US 4241-089**  
 Carbohydrate based ruminant feedstuff - contg. glucosyl-urea to  
 increase cellulose and nitrogen assimilation  
 BATIELLE MEMORIAL I 10.06.77-CH-007159  
 C03 (23.12.80) \*WP7800-017 A23k-01/16  
 08.06.78 as 913834 (3pp931)

A feedstuff for livestock comprises 90-95 wt.% of carbohydrates and  
 2-10 wt.% of a urea deriv. e.g. a crystallised glucosylurea of 90% or  
 more purity, such that the total chemically unbound urea and  
 glucose is 10 wt.% or less.

Pref. the carbohydrate component comprises 30.70 wt.% of starch  
 and 20-50 wt.% of cellulose and hemicellulose. The feedstuff further  
 comprises water, binders, premix vitamins, fats and/or flavours.

The feedstuff is prepd. by heating 1 equiv. of glucose with 1 equiv.  
 of urea to deg.C with stirring in the presence of H2SO4 as a  
 dehydrating agent, then diluting with 30-50 wt.% of water. The mixt.  
 is conc. and cooled until glucosylurea crystals separate which are  
 then collected and mixed with the carbohydrates.

**LIFE-★** **D13** **01852 D/02 ★ US**  
 Non-adhesive, high cud volume chewing gums - contg.  
 sweetener, flavour, alpha cellulose as slip agent, w  
 thickener

LIFE SAVERS INC 21.12.78-US-971756  
 A97 (23.12.80) A23g-03/30

21.12.78 as 971756 (5pp478)

Chewing gum with non-adhesive props. consists of (by  
 base, sweetener, flavouring, 1-15% of alpha-cellulose  
 water, and 0.2-3% of a thickener (II). (II) may be hydrolyse  
 solids, malto-dextrin, modified food starch, low DE co  
 solids, alginates, carrageenan, xanthan gum, gelatin  
 tragacanth, locust bean, and other water soluble gums, or C

Use of the slip agent (I) improves quality, imparts no  
 props. to the gum (so that it does not stick to dentures,  
 significantly increases cud size.

**LIFE-★** **D13** **01853 D/02 ★ US**  
 Non-adhesive, high cud vol. chewing gum - contg. gu  
 sweetener, flavour, alpha cellulose as slip agent, and water

LIFE SAVERS INC 21.12.78-US-971757  
 A97 (23.12.80) A23g-03/30

21.12.78 as 971757 (6pp478)

Calorie-free, carbohydrate-free, noncariogenic chewin  
 consists of (by wt.) gum base, calorie-free sweetener, flavou  
 alpha-cellulose (I) as slip agent or texturizing agent and  
 agent, and 1-40% H2O. Pref. compsns. contain (by wt.) 5-30  
 0.1-5% esp. 0.3-3% calorie-free sweetener (particle size less  
 pref. less than 100 microns for long-lasting sweetness), 15-8  
 20-55% gum base and 0.3-5% esp. 0.5-2.5% flavour.

The calorie-free, carbohydrate-free chewing gum contg.  
 significantly higher cud vol., and does not adhere to na  
 artificial teeth, etc. In addn., the gum has an acceptable soft  
 etc..

**GENO** **D13** **01854 D/02 ★ US**  
 Gasified candy confection - consisting of granules of gasified  
 dispersed in hard sorbitol binding matrix

GENERAL FOODS CORP 26.10.79-US-088482  
 (23.12.80) A23g-03

26.10.79 as 088482 (5pp478)

Confection consists of granules of gasified candy (contg. 0.5  
 of gas/g of candy) dispersed in a hard, binding matrix con  
 crystallised sorbitol (I).

Binding matrix has H2O-content less than 3% pref. 1-2% (I)  
 pref. less than that of gasified candy), and may also contain  
 sweeteners other than (I) (dextrose, corn syrup, etc.).

Unlike known candies, the title gasified confection does n  
 water-resistant packaging. When dissolved in the mouth the  
 provides a significantly prolonged popping or sizzling sensa  
 well as a freshening of the breath and a flavoured sweet effect

**UIIN-★** **D13** **01855 D/02 ★ US**  
 Food supplement prepn. from vegetable pulp esp. sugar:be  
 washing, bleaching and drying

U & I INC 11.05.78-US-905059  
 (23.12.80) A231-01/27

11.05.78 as 905059 (4pp955)

Water-extracted pulps of sugar beet, apples, citrus peels  
 beans, peas or turnips are contacted with an aq. bleach soln  
 hydrogen peroxide, an alkali metal peroxide, and  
 persulphate, sulphur dioxide, sodium hydrosulphite,  
 chlorite, sodium hypochlorite, chlorine and/or chlorine d  
 They are then sepd. and dried. The prod. contains 4-8 wt.% w  
 9 wt.% crude protein, 15-25 wt.% crude fibre, 60-70 wt.% ni  
 free extracts, and 2.5-5 wt.% ash.

The prod. is bland, stable, and free flowing. It is useful as  
 or supplement in foods e.g. soups, sauces, gravies, dips, in hig  
 bread, batter, breaded prods., in dry instant mixes e.g. fruit  
 etc. It swells rapidly in aq. mixts.

**PILL** **D13** **01856 D/02 ★ US**  
 Method of dehydrating potatoes - including dividing potato  
 two groups separately treated prior to flaking process

PILLSBURY CO 11.10.79-US-083885  
 (23.12.80) A231-01/21

11.10.79 as 083885 (9pp295)

A method for producing dehydrated potatoes involves clea  
 quantity of potatoes and sepg. them into two groups with the  
 ratio of the first group to the second group being 25 : 75 to 75 : 25

The first group of potatoes are sliced, cooked, riced, peel  
 cooled to less than 115 deg.F. The second group of potato  
 peeled, sliced, blanched and cooled to less than 80 deg.F. Th  
 then cooked, riced and cooled to less than 115 deg.F. Th  
 separately treated groups are finally combined and dehydrat  
 moisture content of less than 9 wt.%.

The prod. has a taste and texture resembling that of  
 mashed potatoes even after a storage period of about 18 month



W-★ D13 01858 D/02 ★US 4241-096  
g cauliflower heads - by cutting culls while held by hold down  
on conveyor then cutting to release curds  
HAW R A INC 15.03.79-US-020897 (25.07.77-US-818497)  
(23.12.80) A23p-01  
79 as 020897 Div.ex 4176595 (5pp1358)  
s are cored by cutting the culls from the base of each head as it  
els along a path while exerting a downward force on a  
mferential zone of each head to prevent it moving out of the  
then removing the force and cutting the heads so that they  
up into parts, these being collected separately from the culls.  
e zone is pref. circular and varies in height relative to a set  
ence as a function of head size. Cutting is pref. by rotary  
rs. The parent patent claims the appts., in which the heads are  
ed in spiked cups on a conveyor and the force is applied by a  
down ring.

L ★ D13 01859 D/02 ★US 4241-097  
ouring foodstuffs with coumarin substitutes - comprising 1,4-  
odioxan-2-one and hexa:hydro analogue  
NT FLAVORS & FRAGR INC 13.09.79-US-075071  
13 (23.12.80) A231-01/22  
79 as 075071 (16pp367)  
aroma or taste of foodstuffs is augmented or enhanced by  
ng 0.5-20 ppm of 1,4-benzodioxan-2-one (I) or hexahydro-1,4-  
odioxan-2-one (II). (I) can be prepd. from catechol by reaction  
bromoacetyl bromide in the presence of  $\text{NET}_3$  or by reaction  
 $\text{NaOH}$  and then with ethyl chloroacetate. (II) can be prepd. by  
ting 1,2-cyclohexanediol with  $\text{NaH}$  and then with ethyl  
noacetate. (II) can be in cis or trans form.  
and (II) are inexpensive replacements for coumarins, having  
et, green, fruity, coumarinic, marzipan-like aroma and flavour  
acteristics. (I) and (II) are used in perfumes, perfumed articles,  
gnes, foodstuffs, chewing gums, toothpastes, medicinal prods.  
smoking tobacco.

L ★ D13 01860 D/02 ★US 4241-098  
ouring foodstuffs with hexenol oxidn. prod. - contg. 3-hexenal, 2-  
enal, 3-hexenal and ester(s)  
NT FLAVORS & FRAGR INC 17.10.79-US-085707  
E17 (23.12.80) A231-01/22  
0.79 as 085707 (29pp367)  
flavour or aroma of foodstuffs is augmented or enhanced by  
ing 0.05-500 ppm of a mixt. of cis-3-hexenal (I), trans-2-hexenal  
cis-3-hexenyl formate (III), cis-3-hexenol (IV) and cis-3-hexenyl  
3-hexenoate (V). The mixt. of (I)-(V) is prepd. by reacting (IV)  
pyridinium chlorochromate (VI) in a (IV):(VI) molar ratio of  
5-2 in a solvent.  
ne mixt. has an intense crushed green leaf flavour which is much  
er lasting than that of (I) alone, and a powerful green fruity,  
v, spicy aroma with a more stable green note than (I).

IM/★ D13 01861 D/02 ★US 4241-099  
ed prods. prepd. with high-methoxy pectin - using glucono-delta-  
one as delayed-release acidulant  
IEMSTRAP J 26.02.79-US-015287  
(23.12.80) A231-01/06  
79 as 015287 (19pp367)  
ed prods. (e.g. confectionery jellies or table spreads) contg.  
e than 76 wt.% sugar solids are produced by gelling a pre-gelled  
psn. comprising an aq. sugar soln. contg. (a) 0.5-3 wt.%, based on  
sugar, or a high-methoxy pectin with a degree of methylation

(DM) of at least 45, and (b) 1-5 wt.%, based on total sugar, of glucono-  
delta-lactone (I). The pre-gelled compsn. has a pH of 3.8-5.5.

Use of (I) as acidulant delays setting for a time sufficient to allow  
the compsn. to be poured into a mould (at least 5 min.) High gel  
strengths can be achieved using low pectin concns.; premature  
setting before the compsn. has reached its optimum pH is  
suppressed.

KIBU- D13 54986 B/30 = US 4241-100  
Soybean milk prodn. without beany flavour or bitterness - by  
grinding cooked beans with aq. sodium bi:carbonate (BR 2.8.77)

KIBUN CO 21.07.75-JP-088441  
(23.12.80) \*GB1549-206 + A231-02/38  
11.09.78 as 941408 (+ 13.7.76-US-704920) (3pp931)  
Soybean milk is produced by cooking unsoaked beans in an aq.  
medium at the b.pt. for 2-4 mins.; grinding the cooked beans in  
contact with 0.1-1%  $\text{NaHCO}_3$  aq. soln. at more than 80 deg.C; then  
extracting protein and water-soluble components from the ground  
beans and removing all the solids from the slurry to yield the milk.

Pref. the aq. medium for cooking is a 0.1-1%  $\text{NaHCO}_3$  aq. soln. The  
soybean milk prepd. has no undesirable beany flavour or bitterness,  
having a soft and pleasant feel to the tongue.

SCMZ D13 84392 C/48 = WP 8002-636  
Imitation cocoa powder prepd. from fine flour mixt. - with added fat,  
flavour and colouring

SCM CORP 05.06.79-US-046156  
(11.12.80) \*BE-884-374 + A23g-01  
04.06.80 as U00735 (36pp597) (E) US4119740 GB2010657 US2774670  
US3625710 US3639129 US3694232 US3840685 US3851072 US4076847  
FR2049642 N(JP) E(AT CH DE FR GB LUNL SE)

(A) Imitation cocoa powder compsn. comprises (on  
a dry basis) 60-85% of a finely ground mixt. of  
neutral flours, which are degermed and/or de-  
fatted, in proportion to obtain contents of 40-  
65% carbohydrates, 1-10% fibres, 15-30% protein  
and 2-7% ash; and 1-25% fats, the remainder  
being water, flavouring and colouring sufficient  
to produce the flavour and colour of natural  
cocoa powder. The powder is prepd. by dry mixing  
the fine flours, then mixing with water and col-  
ourant to form a paste which is extruded, dried  
and ground, followed by uniform application of  
fat and flavouring.

(B) A novel imitation cocoa base powder com-  
prises the flours as above to give a content of  
40-70% carbohydrates, 20-35% protein, 1-10% fibre,  
2-7% ash and a natural fat content of less than  
3% and a water content of less than 5%.

Prod. may replace natural cocoa up to 100% in  
compsns. using cocoa. It has the same taste and  
colour as natural cocoa with a similar water  
solubility.

See Also

D16 GB2050418

D23 J80048778

## D14: FOODSTUFF MACHINERY

IE-★ D14 00886 D/02 ★GB 1582-529  
xer for mixing food esp. marshmallow or foam plastic - includes  
ed rotor interacting with bladed stators, made of flat stock  
AKES E T LTD 22.10.76-GB-044009  
31 J02 (07.01.81) B01f-07/02  
77 as ----- (7pp295)

xer comprises a rotor with axially extending blades which are  
ldigitated with blades extending from stators at each end of the  
The rotor blades are formed from flat stock which is  
hined to create a comb-like blade which is secured into a radial  
n the rotor. The stator blade is similarly constructed.  
ef. the rotor has several comb-like blades each of which has a  
ngular or parallelogramic cross-section. Material to be mixed  
roduced through the stator at one end of the apparatus and  
vs a tortuous path through the blades before leaving on the  
site side of the apparatus.  
e apparatus mixes food esp marshmallow. Milling the comb-  
blades from flat stock is less expensive than milling the rotor  
the solid.

XEDA-★ D14 D/02 ★IL --53-172  
Device for chemical or thermal treatment of vegetable and fruit  
prods. - packed in trays or containers  
XEDA INT SA 22.12.76-IT-012954  
P11 P41 Q34 (30.11.80) A01c-01 A23n-09 B03b-03 B65d-81/38

MAGE-★ D14 01228 D/02 ★NL 7904-454  
Washing plant for fumes from foodstuff smoking - is adapted for  
small businesses efficiently preventing any environmental nuisance  
MAGEVO BV 06.06.79-NL-004454  
J01 (09.12.80) B01d-47/06

06.06.79 as 004454 (8pp1014)  
The housing of a plant for cleaning flue gases originating in the  
smoking of foodstuffs, is formed by a number of columns arranged  
above a common water reservoir. The columns are connected by a  
gas duct and the fumes flow through the columns in sequence. Each  
column has a water feed line with one or more spray nozzles, and an  
overflow connecting to the reservoir is fitted at the bottom of each  
column.

For pref. concentrically in each column a housing is fitted. This



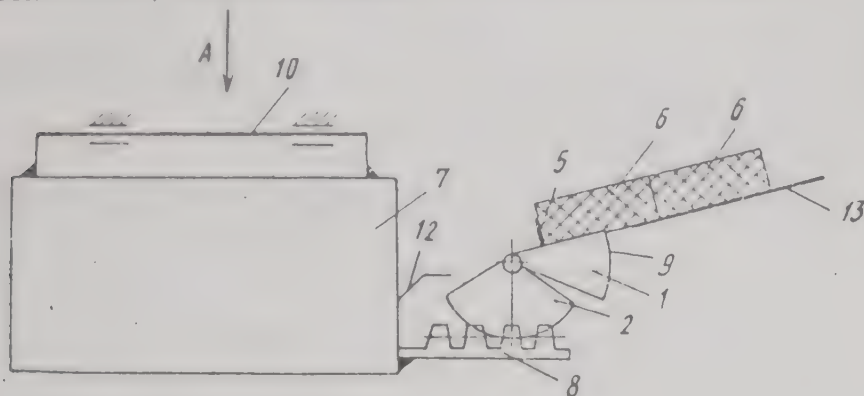
has a closed upper end and an open bottom end. A flue gas duct opens into each housing near to its closed end, and one or more spray nozzles are provided in each housing. The housings are installed in the lower half of the columns with the open under side close to the bottom.

Used to provide a compact, easily erected installation for the use of suppliers of foodstuffs who smoke their own produce. With the plant, the escape of foul-smelling fumes into the environment is prevented.

**MURM = ★ D14 01325 D/02 ★ SU-733-610**  
Frozen food blocks loader for glazing machine - has toothed segment acting in conjunction with rack to hold back blocks while first block slides in

**MURMANSK GIPRORYBFL 05.01.78-SU-566061**  
(20.05.80) A23b-04/06

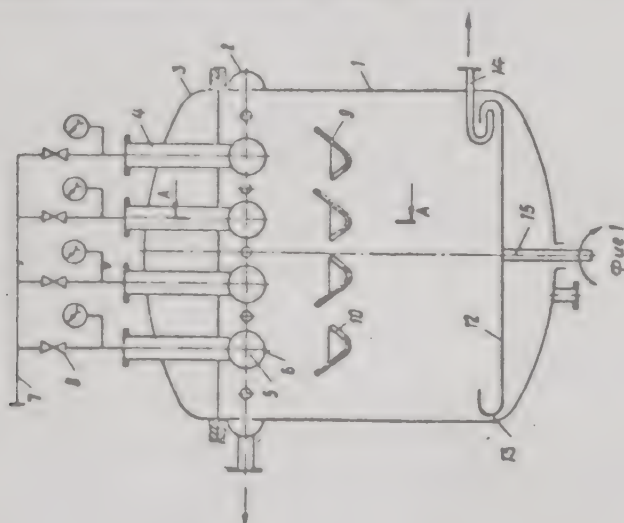
05.01.78 as 566061 (3pp29)  
Loader for admitting blocks of frozen food products to a processing machine (e.g. for glazing), with elimination of manual handling and increase of operational safety, by using a support plate made as a segment capable of rotation. The teeth on the segment are acted on by a movable rack and there is a fixed stop to hold back each of the blocks in turn, while the previous block slides into the glazer.



**MOGI = ★ D14 01327 D/02 ★ SU-733-613**  
Liq. food products steriliser - has vertical chamber, steam manifold and perforated horizontal tubes from which product drips into heated boxes

**MOGIL TECHN INST 29.12.77-SU-562698**  
(20.05.80) A23c-03/02

29.12.77 as 562698 (3pp29)  
Liquid food products steriliser e.g. for cream pasteurisation in butter production has vertical cylindrical chamber, steam manifold, product supply pipes linked to horizontal tubes in the body, which have holes at the lower ends through which the product emerges. Heating is more uniform and sterilisation quality is increased, by fitting the chamber with boxes, each below a horizontal tube. A disc with bent-back upper edges rotates in the lower part. The upper edge of each box is serrated, on the side pointing towards the centre; this increases the bactericidal effect.

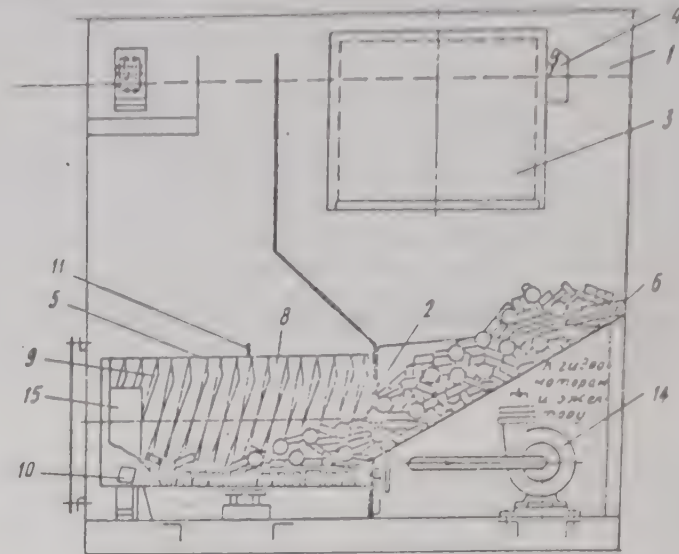


**MITR/ ★ D14 01331 D/02 ★ SU-733-625**  
Conserve cans unloader and orienter - has rotating horizontal drum orienter with helical guides, and unloading hatch

**MITROV OL 28.12.77-SU-562678**  
Q31 (20.05.80) A23l-03 B65b-21/04

28.12.77 as 562678 (3pp29)  
Conserve cans unloader, from autoclave baskets, with orientation prior to subsequent processing, with basket-tipping mechanism, orienter with helical guides, and conveyor. Orientation of cans with diameter/height ratio of more than unity is guaranteed, and damage is avoided, by making the orienter as a horizontal drum on rollers, with entrance and exit hatches. A limiter is placed in front of the exit hatch and the guides are fitted to the internal wall of the drum. The conveyor is a hydraulic lift which has a chute at the entrance

and wire runway at the exit. A stop ring on the outside of the prevents axial movement. Bul.18/15.5.80.

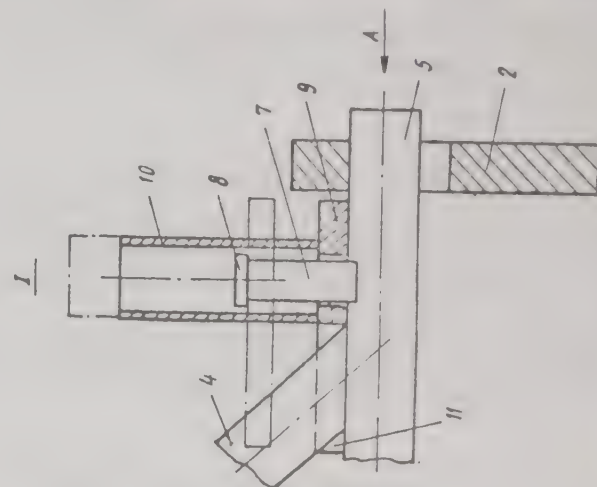


**VINN = ★ D14 01332 D/02 ★ SU**  
Basket for sterilising cans of preserve in autoclaves - has plate handle placed over vertical pins on lifting beam ends

**VINNITSA TECHN DES 13.12.77-SU-555118**  
(20.05.80) A23l-03/10

13.12.77 as 555118 (3pp29)

Sterilisation basket, for putting cans of preserve intermittently-operating autoclaves, has perforated casing, lugs, and a bottom which can be moved, plus a removable b fasten the baskets to a hoist. The fixing of the beam is mad and involuntary disengagement is prevented by fastening a v pin firmly to each end of the beam. A plate, with a handle, is over the pins with limiters to prevent the plate moving.



**KULA/ ★ D14 01333 D/02 ★ SU**  
Root vegetables washer - has loading hopper to which dirty w pumped, moving chamber and concentric cylinders to vibration

**KULAKOV VK 05.04.77-SU-476327**  
(15.05.80) A23n-13

05.04.77 as 476327 (4pp29)

Root vegetable washer, having increased productivity, has s frame with loading and unloading pipes, vibrator, settling tar water-circulating pipelines. The loader/unloader are fastened frame and connected to the washing chamber by bags of material. Around that part of the chamber which abuts unloading pipe, there are several rows of holes to feed i water. The chamber base has holes to let the water out. The v consists of two concentric vessels on the outside of the cha underneath the holes. There is a hole in the inner container pipe is connected to the outer container, to take away the water.

**NONB = ★ D14 01334 D/02 ★ SU**  
Fruit sorter working by size - has chain conveyor with side travelling in undulating guides, and series of curved and wav rods

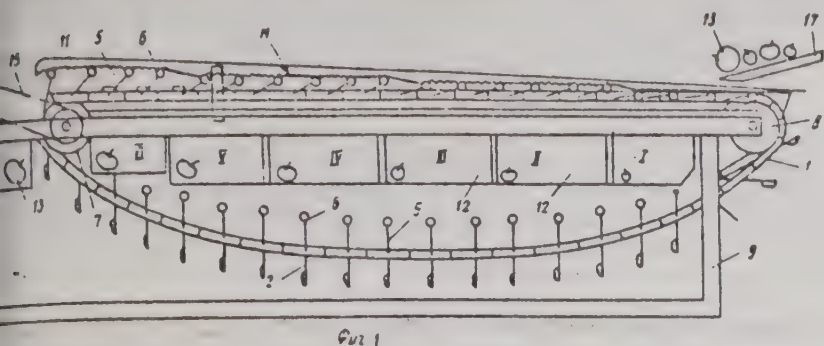
**NON-BLACK AREA HORT 07.10.77-SU-534381**  
P43 (15.05.80) A23n-15 B07b-13/04

07.10.77 as 534381 (4pp29)

Sorter for fruit, according to size, with duplicate guides and conveyor to which the working parts are connected by arm rollers which can move along the guides. The calibrating p speeded up by making the working parts as zigzag rods and bars, fastened along the rods so that the convexity of each w formed in the direction of the apexes of the zigzags. This shaped calibrating slits. The working surfaces of the guides wave-shape to impart an oscillating motion to the w



lastic plugs are inserted into shaped slits. Bul.18/15.5.80.



**D14** 58456 B/32 = US 4238-998  
mining compressible viscous material, e.g. dough in extruder - rotary gate having offset inlet and outlet and compacting

RRING M T A 24.01.78-GB-002770  
+ P71 (16.12.80) \*EP---3-394 + B30b-11/22  
9 as 004379 (7pp1358)

compressible viscous foodstuff, e.g. dough or meat product, is fed by introducing an unmeasured amount into a cylinder, acting the set density with a piston, then discharging through orifice an amount to reduce chamber volume by a set at.

material is pref. introduced through an inlet with a rotary having apertures mutually offset longitudinally of the axis of on, and the inlet is connected to a feed hopper. The orifice pref. as a rotary gate and both gates have apertures trailing edges cutting edges. The piston rod pref. has a mechanical spring ocated by a follower in a cam track rotated by a shaft driving ry gate gear.

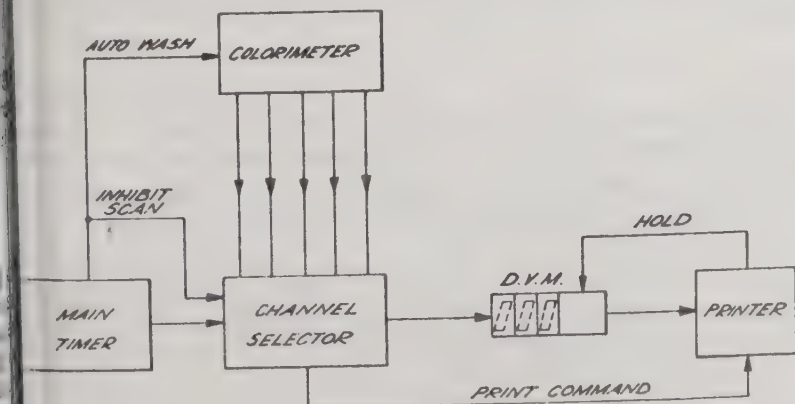
**D14** 01412 D/02 ★ US 4239-175  
d for freezing liquid foodstuff - domed holder cap with straw o draw off trapped liquid  
RAUBINGER P 19.11.79-US-095404  
3.12.80) A23g-09/26  
79 as 095404 (4pp1358)

ould comprises a cup to hold liquid and a cap with a domed al part and a handle extending from the outer surface centre. anchoring pin extends into the cup from the cap so that when the ct is removed the cap forms a drip tray.

draw member communicates with the cap interior and extends urdly so that liquid trapped can be drawn off by the user. The ref. has a rim to fit over the outer side surface of the cup, and ntral part has a centering flange to fit in the cup mouth and ed by wall sections spaced end to end for flow between them.

**D15** D/02 ★ BR 8002-821  
ction of metallic ion concn. in aq. effluents  
CORP 18.06.79-US-049703  
12.80) C02f-01/58

**D15** 00863 D/02 ★ GB 1582-228  
for continuous colorimetric analysis - uses air bubbles to ion liq. into discrete samples into which complex reagent is uced  
BRITISH GAS CORP 12.12.75-GB-051025  
S03 (07.01.81) G01n-01/28 G01n-21/27  
77 as ----- (13pp67)  
for continuous colorimetric analysis of components in a liq. rprises a photometric absorptiometer having a series of modules.



module has a flow cell which is supplied with an influent a of a coloured complex of the liq. to be analysed.

**SCHN/ D14** 77233 B/43 = US 4240-591  
Rotary food mincer with trap for metal foreign bodies - which are centrifuged out of axial flow of prod.

SCHNELL K 22.06.78-DE-827369  
P41 + P28 (23.12.80) \*BE-877-150 B02c-18/30  
22.06.79 as 051137 (4pp1358)

A mincing machine, e.g. for meat, includes a rotatable shaft carrying at least one tool in a housing, and a centrifugal disc on the shaft adjacent the mincing passage inlet upstream of the tool. The disc periphery has inturned radially extending ends to define an annular groove to collect hard objects before they can move into the passage while having an axial passage for material to be minced.

The disc pref. has a number of openings for mincing material, and an outer rim with perforated rear wall and partial radial wall inwardly from the outer end of the rim, the groove being formed between rim and rear wall. There are pref. a number of tool sets, each with a cutter and perforated disc.

**QUAK ★ D14** 01713 D/02 ★ US 4240-779  
Extruded food cutting rotating knife - with sharpened radial blades making upward strokes

QUAKER OATS CO 23.08.78-US-935930 (31.10.75-US-627760)  
P13 (23.12.80) A01j-21/02  
23.08.78 as 935930 (5pp295)

Food prod. is extruded horizontally from a nozzle adjacent a cut-off knife. The knife comprises a rotating hub with radial blades which sweep upwards past the nozzle. This action moves the severed prod. upwards and it is restrained by a shroud which surrounds the nozzle. The shroud is vapour permeable and permits circulation of ambient air to cool the prod. The appts. forms an Moving the knife upwards increases the time the prod. is in the air and thus improves cooling. It also reduces the velocity with which the prod. impinges on a collection chute and thus reduces prod. damage.

**NAKA- ★ D14** 01857 D/02 ★ US 4241-095  
Preventing spoilage of food, esp. soy sauce - using acetic acid and sodium, potassium or calcium salt of organic acid  
NAKANO VINEGAR KK 04.12.78-US-965911  
(23.12.80) A21d-04

04.12.78 as 965911 (4pp955)

Spoilage of soy sauce is prevented by addn. before or after cooking, of a preservative soln. contg. acetic acid and a Na, K or Ca salt of acetic, malic, tartaric, citric or lactic acids. Sufficient is used to provide a concn. of 0.02-0.2 wt.% acetic acid in the soy sauce. The soln. contains the salt in up to six times the amt. of acetic acid.

The soln. does not impart a sour taste or greatly change the pH.

## D15: WATER TREATMENT

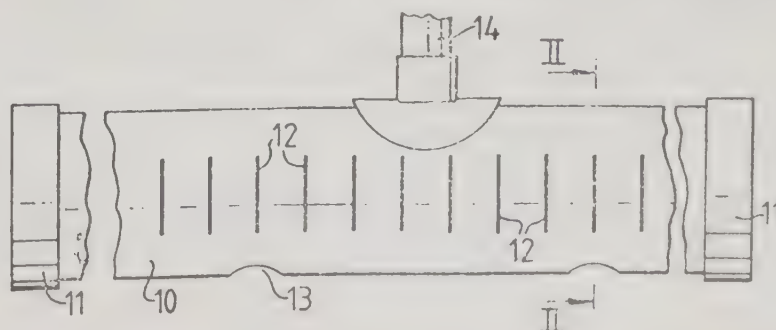
Air is introduced into the influent liq. stream to partition it into a series of discrete liq. samples of preselected vol. interposed by air bubbles. Complex reagent is introduced into the individual samples to form a coloured complex of the liq. and the air then removed. The flow cell is then illuminated and a photometer device detects light passing through the cell to provide an optical density reading.

Used in analysis of boiler feed waters. Automatic appts. permits continuous on-line analysis of liq.

**HAWK ★ D15** 00883 D/02 ★ GB 1582-520  
Sewage and industrial waste waters aeration - from horizontal conduit with vertical slots extending for part of conduit diameter

HAWKER SIDDELEY WAT 24.05.78-GB-022081  
(07.01.81) B01f-03/04 B01f-13/02  
24.05.78 as 022081 (4pp295)

Distributor conduit extends horizontally in a liquid body. Pref. the conduit is a circular plastic tube with vertical slots which discharge



air from the conduit into the liquid. Pref. the slots are 1.6 mm wide and pref. their vertical height is 15-20% of the tube dia. Pref. the







**D15** 21456 V/12 = J8 0048-848  
separation - from oil-water emulsions in two vertical electrolytic  
VEROSTERR EISEN & STAHL 07.09.72-AT-007696  
J03 (09.12.80) \*DE2345-353 B01d-17/02 C02f-01/24  
9.73 as 101015 (5pp)  
is sepd. from oil-water emulsions by electrolysis (0.5-3A/square  
metre) in a first stage, followed by sepn. of oil from the aq.  
se. A second electrolysis (0.1-0.2 A/square) is again followed by  
sepn. The effluent passes between the electrodes in each of the  
stages in a vertical direction. (J49093962).

**D15** 01188 D/02 ★ J8 0048-850  
sts. for removing PPTES. from sedimentation tank - comprising  
ible gas tight film fixed to sidewall of tank and compressed air  
SUMITOMO ELEC IND KK 06.07.74-JP-077558  
(09.12.80) B01d-21/24  
7.74 as 077558 (2pp)  
sts. comprises a flexible gas tight film fixed to the side wall of the  
k to lay on the bottom of the tank and a compressed air pipe  
ning into a space defined by the tank and film. (J51005663).

**D15** 00311 T/01 = J8 0048-863  
exchange water treatment - with backwashing and separation of  
ed bed resins  
HAGER & ELSASSER (HAG) 16.06.70-DE-029720 (17.04.70-DE-  
18455)  
J01 (09.12.80) \*DE2029-720 B01j-47/10 C02f-01/42  
4.71 as 024182 /73 Div.ex 24444/71 (15pp)  
reatment process (softening and/or desalting) for liqs., esp.  
er, using ion exchangers with repeated batch recycling of the ion  
ange materials through a regeneration and washing vessel and  
k to the treatment vessel, is effected with a back-washing vessel  
re the regeneration and washing vessel.  
ere the material is thoroughly back-washed during at least one  
e, cation and anion materials being sepd. These are then fed to  
rate regeneration and washing vessels, then returned together  
e treatment vessel. (J50068965).

**D15** 29218 X/16 = J8 0048-871  
phosphate removal from waste liqs. - using granular filter medium  
g. calcium salt  
BARA INFILCO KK (EBAR) 29.08.74-JP-099207  
(09.12.80) \*J51026-752 + B01d-15 C02f-01/28  
7.74 as 099207 (5pp)  
phosphates in liqs. such as city water, industrial waste water,  
age, etc., are removed by passing the liqs. at pH of at least 6 (6-  
rough a layer of granular filter medium (e.g., quartz sand,  
racite, polyethylene, etc) which is obtd. by passing a liq. contg.  
phosphates and adjusted to pH of at least 6 in the presence of a  
um salt through and in contact with the granular filter medium  
essively for a given period of time, e.g. 24-48 hrs. at 20-30ppm of  
phosphate; 48-72 hrs. at 10ppm.  
phosphate removal is not substantially lowered even after  
se-cleaning the filter layer, which, if deteriorated, can be  
ered by supplementing with a small amt. of calcium salts for a  
period of time. J51026752

**D15** 13174 A/07 = J8 0048-872  
rogen sulphide removal from waste water - by passing through a  
n contg. activated carbon and blowing with oxygen  
AO SOAP KK 14.05.74-JP-053595  
36 (09.12.80) \*J50146-155 + C02f-01/28  
74 as 053595 (3pp38)  
e water is passed through a column contg. granular activated  
n while blowing oxygen into the column, to remove hydrogen  
ide from the treated water.  
is two columns contg. 50 ml. each of activated carbon was  
ected in a series. Waste water (BOD 50 ppm) was passed  
gh the columns at 400 ml/hr while blowing oxygen into each  
n at 2ml/hr. The effluent contained 2ppm hydrogen sulphide.  
the waste water treatment was performed without blowing  
n, the effluent contained 400 ppm hydrogen sulphide.  
(6155)

**D15** 11766 X/07 = J8 0048-873  
ions removal from waste water - by treating with adsorptive  
e and electrolytically removing any remaining tracts  
OWA DENKO KK 21.06.73-JP-069167  
(09.12.80) \*J50017-053 + C02f-01/48  
3 as 069167 (5pp)  
olns. contg. halide(complex)ions are treated with adsorptive  
e and subsequently an insol. electrode is used to apply an  
ic field to remove trace amts. of halide (complex)ions.  
n example a sludge, Al<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub> (3220 ppm) was added to a waste  
from synthesis of artificial cryolite, contg. F<sup>-</sup> (40.2 ppm). To  
ixt was applied 3.6 V DC or 2.5 A/cm power 2 AC for 30 min.

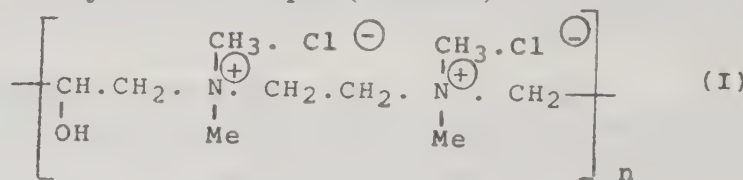
using C and Fe electrodes. The F<sup>-</sup> removal in the presence of  
Al<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub> and 54.2 and 47.6% after DC and AC application, cf. that in  
the absence of Al<sub>2</sub>(SO<sub>4</sub>) and electric current was 15.4 and  
4.7% (J50017053)

**TOKZ ★** **D15** 01194 D/02 ★ J8 0048-874  
Bactericide for use in swimming pools, cosmetics inks etc. -  
comprises zinc and/or manganese salts of ethylene (and/or  
propylene) bis di:thiocarbamic acid  
TOKYO ORG CHEM IND KK 07.07.71-JP-049593  
D22 E12 (D22) (09.12.80) C02f-01/50  
07.07.71 as 049593 (11pp83)  
Anti-bacterial agent (I) comprises Zn-, Mn- or Zn/Mn mixed salt of  
ethylene- and/or propylene-bis-dithiocarbamic acid. The agent is  
harmless to man and other animals. The carbamates may be  
modified with ammonia.  
(I) kills mould and bacteria in water for cooling, swimming pool,  
cosmetics, ink, etc. (J48018426).

**SUNW ★** **D15** 01195 D/02 ★ J8 0048-875  
Water filter used for removing chlorine from tap water - comprises  
active charcoal mixed with oligo dynamic metals differing in  
contact potential  
SUN WAVE IND KK 12.03.74-JP-027707  
(09.12.80) C02f-01/50  
12.03.74 as 027707 (2pp83)  
Water filter comprises active charcoal mixed with oligo-dynamic  
metals (I) of more than two types differing in contact potential.  
Filter is used for removing chlorine from tap water. (I) is e.g. Ag,  
Au, Cu, Pt, etc. and (I) effectively kills bacteria in water. (J50120152).

**ASAG** **D15** 66325 W/40 = J8 0049-009  
Recovery of fluorine from waste water - contg. fluorine cpds. and  
low sulphate concentrators, by addn. of lime and (bi)carbonate  
ASAHI GLASS KK 23.10.73-JP-118475  
E33 (09.12.80) \*J50067-793 + C01f-11/22  
23.10.73 as 118475 (4pp)  
To a waste water contg. F<sup>-</sup> cpds. (alkali F<sup>-</sup> etc.) and a small amt of  
sulphate, 1.3-2.5 equiv. Ca(OH)<sub>2</sub> was added in the presence of  
(bi)carbonate, and sol. Ca cpd. was added at pH 7.5-9 to recover F<sup>-</sup> as  
CaF<sub>2</sub>.  
For example, 40 kg/hr. Ca(OH)<sub>2</sub> was added to a 4 cubic m./hr  
waste water contg. F<sub>3</sub>O, SO<sub>4</sub>(2-) 3.5, and carbonate 4.0g/l at pH 11,  
and 5.7 kg/hr. 50% CaCl<sub>2</sub> was added at pH 8.5 to give a cake contg.  
F<sub>2</sub>5 and sulphate 0.73% (J50067793)

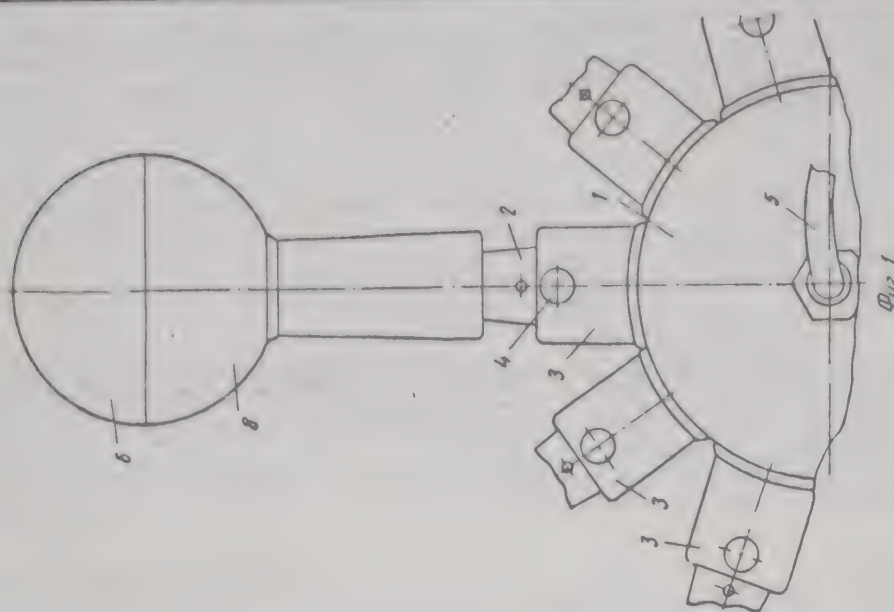
**BUCL** **D15** 83123 X/45 = J8 0049-042  
Control of algae in water - using poly-(2-  
hydroxyethylene(dimethimmonio) ethylene(dimethylimmonio)-  
methylene dichloride)  
BUCKMAN LABS INC 21.07.75-US-597602  
A97 C03 + P13 P34 (10.12.80) \*BE-843-220 A01n-33/12  
18.05.76 as 057170 (4pp)  
Use of polymer of formula (I) is new or as algicide is new (where n is  
4 to 40).  
(I) control algae in industrial water supplies, swimming pools, etc.  
and are non-irritant and non-toxic to man and do not foam like  
quaternary ammonium cpds. (J52012926).



**RUGG/ ★** **D15** **D/02 ★ PT -71-365**  
Sedimentation tank - has sedimentation sections sepd. by spiral wall  
contg. flocculation duct  
RUGGERIA 28.06.79-ZA-003222  
(12.12.80) B01d

**WBAS = ★** **D15** 01307 D/02 ★ SU -732-725  
Sea-water sampler - has two half-containers held by supporting rod  
which are actuated at desired depth by electromagnetic field  
W BASIN IND ASSOC(SEAF =) 26.12.77-SU-560955  
J04 S03 (08.05.80) G01n-01/10  
26.12.77 as 560955 4pp29)  
Liquid sampler, particularly for sea-water from different depths as  
used in studies, has supporting body with setting depression and  
samplers each containing a sample container, bearing rod, shut-  
off/discharge mechanism and electromagnetic drive. Operational  
effectiveness is increased by making the container from butt-welded  
halves placed on the rod, the end of which is the shut-off/discharge  
mechanism fastened into the setting depression of the supporting  
body. One half the sampling container is fastened to the end of the  
rod while the other has a guiding bushing, the free end being made as  
a fixing device. Bul.17/5.5.80





**ORON-** D15 34542 W/21 = SU-733-521  
Vertical electrolytic cell battery for water sterilisation - for drinking water, bathing pools, preventing clogging by insoluble matter  
ORONZIO DE NORA IMP 30.10.73-IT-030709  
J03 X25 (05.05.80) \*DE2451-629 C25b-01/26 C25b-09  
29.10.74 as 076951 3pp)

A vertical electrolytic device has a housing with a lower and upper inlet and outlet for the electrolyte, non-conducting partitions of a section corresponding to that of the housing and forming a series of cell units with provision for holding the electrodes on their upper and lower horizontal surfaces, bipolar, bimetallic electrodes-bonded possibly by a third metal and extending between the partitions at uniform pitch, the anode and cathode zones reaching the same distance, an arrangement in the partitioning elements permitting the passage of the electrolyte from one unit to the next higher, and arrangements for feeding electrical current to the device.

Direct flow through cell units prevents accumulation of insoluble matter-always a problem with sea water, and the gases produced accelerate the upward motion.Bul.17/5.5.80.

**GLEZ/ ★** D15 01342 D/02 ★SU-733-704  
Suspensions and effluents clarifier - has two coaxial inverted cones inside cylindrical body with conical base with down-flowing pipes and flow deflectors

GLEZIN VI 09.11.77-SU-553414  
(18.05.80) B01d-21/02 C02c-01/26  
09.11.77 as 553414 4pp29)

Clarifier for effluents and technical suspensions, has vertical cylindrical body with conical base, inside which inverted cones are installed one above the other coaxially, with pipes fastened to their apexes. The supply pipe is disposed along the body axis and widens out at its lower end into an overflow chamber. There are conical deflectors and pipes to take away the slimes and the clear water. The process is intensified and regulation reliability is increased by adding cylindrical shells which extend upwards from the bases of the coaxial cones. The shell on the outer cone has a lid underneath which is a collection manifold.

**JUTI/** D15 00282 B/01 = US 4239-493  
Control of pH in continuous flow using hydrogen ion evaluation - with subsequent calculation of equilibrium value and a feedback value, the difference being used to control reagent feed

JUTILA P (NIEM) 07.06.77-FI-001810  
J04 T06 (16.12.80) \*DE2824-924 G05d-21/02 + G05b-13/02  
07.06.78 as 913471 (6pp945)

Method of controlling pH in a continuous flow vessel supplied with process chemical and controlling chemical soln. involves measuring the pH at the vessel outlet. This is converted to the corresp. H-ion concn. value which is used in an equation, describing the dissociation equilibria in the soln. to determine a feedback quantity (x). A reference pH value is similarly converted to the corresp. H-ion concn. and used in the equation to determine a reference feedback quantity (y). A control deviation equal to the difference of x and y is then used to control the feed of control soln. Typically a linear controller and activator controlled thereby are used.

The process is accurate since linear control parameters are used and can be used for water aquisition and waste liq. treatment.

**TORA** D15 08848 B/05 #US 4239-545  
Reverse osmosis membrane comprising cellulose deriv. - obtd. from soln. contg. e.g. cellulose acetate butyrate) methyl or ethyl cellulose, organic solvent and tetra-carboxylic acid

TORAY IND INC 25.05.77-JP-059902 (10.08.78-US-932533)  
A88 E17 J01 (A11 E15) (16.12.80) \*J53144-883 + C081-01/12  
10.08.78 as 932533 (5pp937)

A reverse osmosis membrane of cellulose deriv. is prepd in a casting

soln. contg. cellulose deriv acid and an organic wat solvent.

The cellulose deriv is chosen from cellulose acetate, acetates propionate, cellulose acetate butyrate, methyl or ethyl cellulose. The improvement comprises including in the soln a tetracarboxylic acid  $R(COOH)_4$ , where R is a t aliphatic or alicyclic organic radical of 2-10C atoms, pr butanetetracarboxylic acid at 1-20 pts wt per 10 pts wt of deriv. Further the casting soln also contains a monocarboxylic dicarboxylic acid member at a mole fraction not more based on the total moles of member and tetracarboxylic the dicarboxylic acid is maleic acid.

The membrane produced has no more than 0.2 voids square mm, giving high durability besides a good membrane separation characteristics, rate of water per and salt rejection.

**AIRP** D15 27724 C/16 = US  
Simultaneous black liquor oxidn. and concn. - with oxidn between evaporator effects, allowing recovery of heat as steam  
AIR PRODUCTS & CHEM INC 02.10.78-US-947802  
F09 (16.12.80) \*EP---9-932 D21c-11/10  
02.10.78 as 947802 (12pp1358)

Black liquor from wood pulping is oxidised with S-compounds in a multi-effect evaporation system. Heat recovered for use in evaporation by subjecting the whole S of the liquor to oxidation, using high O<sub>2</sub> content gas for oxidation performing oxidation at superatmospheric pressure during through the evaporator or immediately after the last stage.

Oxidised liquor is flashed and the vapours returned to evaporator to augment heating in one or more effects by contact with vapour leaving an upstream effect, the effect being operated at higher pressure than that into which the liquor is first fed. C is pref. 225-400 deg. F with gas containing at least 95% O<sub>2</sub>.

**LEMO/ ★** D15 01494 D/02 ★US  
Distillation appts. with volatile pollutant removal - using topped container receiving preheated water prior to heating  
LEMOINE K D 27.11.79-US-097820 (12.06.78-US-914928)  
J01 (16.12.80) B01d-03/42 C02f-01/04

27.11.79 as 097820 (+ 22.12.78-US-973237) (8pp295)  
A distn. appts. includes a boiler with a bottom opening. Vapour from the boiler passes to a column which has an outlet near its top. A condenser adjacent the column which includes a liquid jacket surrounding a vapour channel. The top of the column is connected to the vapour column outlet, and the bottom to a liquid outlet.

A container open to the atmos. has a surface in heat-exchange relationship with the interior of the vapour column. A jacket interconnects the jacket outlet with the interior of the column which in turn supplies the boiler. An overflow tube is connected to the boiler bottom opening which extends upwardly above the boiler liquid level. A downwardly extending drain is connected to the overflow tube at the lower desired level of the boiler liquid.

The appts. is used to produce pure water for human consumption.

**MOBI** D15 81145 C/46 = US  
Complex metal cyanide removal from industrial effluent by contact with activated sludge at acid Ph before further wastewater processing

MOBIL OIL CORP 16.04.79-US-030418  
H05 J01 M11 (16.12.80) \*DE3014-678 C02f-01/28 + C02f-01/28  
16.04.79 as 030418 (5pp936)  
Refinery waste water facility is described for removing oil, suspended solids and complex cyanides (III) and effect biological treatment before discharge.

Improvement comprises recovering activated sludge (II) from biological treatment stage and contacting (II) with waste water enriched with (III). (III) are removed by maintaining the pH of contact in the range 3-6

Specifically the waste water with complex cyanides compound from a petroleum refining operation of a petrochemical plant from at least 1 industrial source such as electroplating, metal finishing, steel and coke prodn etc. Build up of cyanides is minimized.

**FLUI- ★** D15 01505 D/02 ★US  
Water treatment to remove hardness and sulphur cpds. - by passing through cation exchange resin particles in surface to surface contact  
FLUID POWER RES INC 26.02.79-US-014826 (30.08.78-US-014826)  
E36 (16.12.80) B01j-39

26.02.79 as 014826 (23pp295)  
The water is passed through a bed of cation exchange resin particles with a size below 50 mesh measured on a dry basis. The bed of resin particles in surface contact with each other and in a tightly packed relationship.

The method is used in the treatment of water to remove polyvalent metal ions such as calcium and magnesium, and by the addition of a medium to remove chlorine, hydrogen sulphide, iron, bacteria and other taste and odour-forming contaminants.



**D15** 86113 A/48 = US 4239-622  
 Detecting water esp. domestic and drinking water - using  
 hydrogen peroxide and chloramine  
 TEROX CHEM LTD 27.05.77-GB-022597  
 (E36) (16.12.80) \*BE-867-397 C02f-01/50  
 78 as 907018 (8pp936)  
 supply is disinfected using a mixt. of 0.025-0.1ppm  
 chloramine (I) and 0.1-0.5ppm H<sub>2</sub>O<sub>2</sub>. Pref the wt. ratio of  
 hydrogen peroxide to (I) is at least 2:1 and/or not more than 50:1, esp  
 20:1.  
 comparatively long lasting residual bactericide is provided.

**D15** 39310 B/21 = US 4240-164  
 for biological toilet - comprises a metal rod folded to give  
 and journals  
 LYPUR FORSALJNING 28.10.77-SE-012193  
 (23.12.80) \*DE2846-483 B01f-07/02 C05f-03/04 + A47k-11/02  
 78 as 953369 (4pp1358)  
 et system for biological degradation of excrement includes a  
 ting vessel receiving excrement and degradation material and  
 arging to a container over a sidewall top edge. Mixing is by a  
 ble cultivator extending between the vessel sides and formed  
 ped wire, pref. in a single piece.  
 wire may be shaped into a deformed helix or into a zigzag  
 guration and includes lengths extending from the axis of  
 on sufficiently to be close to the vessel bottom during rotation.  
 ultivator also lifts mixture to the discharge edge. The system is  
 ted within a toil fitted with a ventilating pipe and fan extending  
 the container top.

**D15** 01666 D/02 ★ US 4240-267  
 rage carbonation with liquid carbon dioxide supply - providing  
 al cooling of compressed refrigerant to save energy  
 OCA-COLA CO 04.12.78-US-966273  
 75 (23.12.80) F25b-13 F25b-27/02  
 78 as 966273 (9pp295)  
 uid product to be carbonated is cooled by a refrigerant to  
 ease the solubility of CO<sub>2</sub> gas. The refrigerant is recirculated  
 gh a compressor and desuperheater before entering a  
 voir. Liq. CO<sub>2</sub> is heated prior to feeding to the carbonator by  
 ng through a heat exchanger supplied with refrigerant from the  
 essor. This heat exchanger heats the CO<sub>2</sub> and cools the  
 gerant.  
 ring winter conditions when the refrigerant load condition falls,  
 O<sub>2</sub> liquid flows through an additional heat exchanger supplied  
 rigerant from the desuperheater.  
 e appts. carbonates a beverage having cooling the liq. feed  
 simultaneously heating the liq. CO<sub>2</sub> to liberate CO<sub>2</sub> gas. The  
 ratus is efficient in energy utilisation and operates in both  
 er and winter conditions of refrigeration load.

**D15** 11105 A/06 = US 4240-376  
 ying water in fish tank - with adsorbent, e.g. zeolite for  
 wing nitrogen cpds. and e.g. silica for water-soluble organic  
 AHIKASEI KOGYO 08.06.76-JP-066814  
 6 P14 (23.12.80) \*J52154-792 A01k-63  
 78 as 969132 (+ 01.06.77-US-802338) (7pp931)  
 tic animals in a high density in environmental water are kept  
 for a long time without feeding them by controlling the water  
 and amts. of ammonia cpds., water-soluble organic cpds.,  
 nic acid radicals and O<sub>2</sub> present.  
 temp. is maintained at the lowest possible temp. for animal  
 nce to 7 deg.C above this. Ammonia cpds. are controlled to a  
 of 20 ppm or less, and water-soluble organic cpds. to 150 ppm  
 s. The carbonic acid radicals are controlled to a concn. of 1,000  
 r less, and O<sub>2</sub> to 3 ppm or more.  
 nals e.g. shellfish, crustaceans and molluscs may be kept  
 by the process at a density more than 200 kg. per cub. m in a  
 ner contg. environmental water.

**D15** 84401 A/47 = US 4240-578  
 bowl centrifuge with differential speed screw - using torque  
 ed to drive this as control parameter for flocculant addition  
 CKSON J F 04.05.77-GB-018612  
 P41 (23.12.80) \*DE2819-399 B04b-01/20 + B04b-09/10  
 78 as 900215 (10pp1358)  
 ater centrifuge has a solid cylindrical bowl with liquids and  
 outlets at opposite ends and holding a scroll conveyor driven  
 motor at a different speed to the bowl, with the speed controlled  
 endence on measured torque applied to the conveyor. A pump  
 flocculant into mixt. inlet piping at a rate dependent on the  
 yor-bowl speed differential.  
 motor is pref. hydraulic and has its body connected to the bowl  
 ts output shaft to the conveyor, and the pump supplying  
 ulic fluid is controlled according to the pressure difference  
 the motor. The arrangement provides optimum flocculant  
 ing.

**METG** **D15** 28060 B/15 = US 4240-808  
 Processing waste waters from coal degasification or gasification -  
 by solvent extrn., stripping and separating ammonia and acid gases  
 METALLGESELLSCHAFT AG 03.10.77-DE-744437  
 E35 H09 (E14) (23.12.80) \*DE2744-437 + B01d-19 B01d-53/14  
 02.10.78 as 948184 (6pp964)  
 Aq. effluent liquors which become available as a result of the  
 degasification in gasification of coal are processed by extracting  
 organic impurities with an organic solvent which is insol. or has low  
 solubility in water. The extract is produced to form raw phenol and  
 fresh solvent. Residual solvent is removed from the aq. waste liquor  
 by stripping with gases after the extracting step, scrubbing the  
 gases to recover organic solvent, stripping ammonia from the aq.  
 effluent liquor in a driving column, condensing over head prod. of  
 driving off column, and recycling part of condensate to the top of the  
 column.

The method involves (a) removing part of the overhead prod. of the  
 driving off column as uncondensed vapours; (b) transferring the  
 vapour to scrubbing column, in steps, condensing water, small amts.  
 of NH<sub>3</sub> and all acid gases in the upper part of the column, and  
 withdrawing pure NH<sub>3</sub> overhead; (c) withdrawing the condensate  
 which contains all acid gases from the upper part of the scrubbing  
 column, transferring to separate reboiler and heating; (d)  
 withdrawing the sump prod. of the scrubbing column; transferring  
 to pressurised de-acidification column, and withdrawing H<sub>2</sub>S and  
 CO<sub>2</sub> gas; and (e) recycling sump prod. to driving off column.

Improvement is that liq. consisting of cold water is fed at low rate  
 to top of scrubbing column of (b). Perfect sepn. is achieved at  
 relatively low expenditure.

**STAM** **D15** 02342 B/02 = US 4240-904  
 Biological purification of waste water - in which surplus sludge is  
 hydrolysed with a recoverable volatile base  
 STAMICARBON BV 27.06.77-NL-007081  
 (23.12.80) \*EP----230 + C02f-11/14

03.07.79 as 054434 Div.ex 4190528 (+ 20.6.78-US-917359) (6pp918)  
 Biological purificn. of waste water comprises hydrolysing a  
 suspension of activated sludge formed during purificn. in a basic  
 medium at an elevated temp. The suspension pH is raised to 8-11 and  
 the hydrolysis is carried out in the presence of ammonia or  
 ammonium carbonate at 90-300 (pref. 90-200) deg.C. Hydrolysate  
 obtd. contains at least one naturally occurring amino acid or  
 oligopeptide. At least part of the hydrolysed sludge suspension is  
 desorbed to expel the volatile base which is returned to adjust the pH  
 and the hydrolysate is sepd. from the suspension.

The need for the presence of sodium ions is eliminated and the  
 temp. and pH used do not result in racemisation of the amino acids  
 and peptides.

**UNIC** **D15** 79266 C/45 = US 4240-905  
 Aeration of liquid-solid mixture - by repeated shearing of rising  
 bubbles by rotating arms  
 UNION CARBIDE CORP 18.04.79-US-031296  
 (23.12.80) \*EP--17-989 C02f-03/20  
 18.04.79 as 031296 (15pp1358)  
 Pseudoplastic liquid-solid mixture with at least 2.5 wt.% solids,  
 partic. wastewater sludge, is continuously aerated in a container  
 with height:diameter ratio of 0.5-5.0 and a vertical rotatable shaft  
 carrying two bubble shearing arms with arm frontal width W  
 avoiding appreciable pumping of mixture and a W:arm length ratio  
 less than 0.1, with maximum length at least 25% of container  
 diameter.

Aerating gas bubbles are injected through the container base at  
 multiple points with the outermost at least 40% of maximum arm  
 length. The shaft is rotated to give constant turbulence level while  
 keeping power density below 1.5 SHP per 1000 US gallon capacity.  
 The arms produce minute gas bubbles and the mixture is retained  
 for at least 15 min., and pref. at least 4 h.

**EDMO/★** **D15** 01766 D/02 ★ US 4240-906  
 Compsns. for clarifying liq. media esp. aquaria - contg. vermiculite  
 particles, molecular sieves, and sodium chloride particles  
 EDMONDSON E L 28.09.79-US-079587  
 (23.12.80) C02f-03/06  
 28.09.79 as 079587 (4pp478)

Compsn. for enhancing the clarity of liq. media (e.g. in an aquarium)  
 consists of (by vol.) at least 50% vermiculite particles (I), at least 5%  
 particles of mol. sieves (II), and 0.1-10% NaCl particles.

The compsns. are harmless to plants, and any form of aquarium  
 life; provide (through (I)) improved propagation of aerobic bacteria  
 (to convert waste prods.); and (through (II)) keep the liq. clean, clear,  
 odourless, and free of toxic pollutants. The compsns. may be used in  
 both fresh or salt water aquaria; they also help fresh water tropical  
 fish to ward off infectious diseases.



**NIKE-** D15 61816 B/34 #US 4240-911  
Filtration and ion exchanging column - directs forward flow horizontally from vertical distributor and flushes vertically through same connections

NIKEX NEHEZIPARI KU 13.02.78-HU-DE0952 (28.02.79-US-016309)

(23.12.80) \*EP---3-607 B01d-23/16

28.02.79 as 016309 (7pp1358)

Liquid, partic. water, is filtered flowing horizontally through a sand column in a tower tank with a flat collecting space. The liquid is passed under pressure through a pipe to vertically spaced distributing gaps, and out through a perforated wall to a discharge pipe.

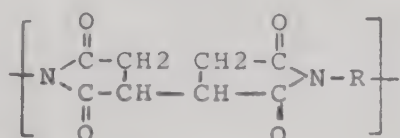
The filter is cleaned and regenerated by passing wash water counterflow at 5-15 m/s to slurry sand adjacent the discharge pipe so that impurities are carried in the water to a column top overflow, and also to the column bottom. Wash water may be passed through a flow accelerating throat and there may be a deflecting plate for directing it to the tower bottom.

**NITL** D15 40894 B/22 = US 4240-914  
Self-supporting permselective polyimide membrane - derived from butan-tetra-carboxylic acid and di-amine, useful in reverse osmosis and ultrafiltration

NITTO ELECTRIC IND KK 18.11.77-JP-139383

A88 J01 + P73 (A26) (23.12.80) \*DE2849-978 + B01d-31 B32b-05/18 16.11.78 as 961168 (12pp918)

Self-supporting selective permeable membrane comprises a polyimide consisting of repeating units of formula (I). R is a divalent organic gp. and the polymer has an inherent viscosity of 0.55-1.2 (pref. 0.6-1.00) when measured at 30 deg.C. Pref. R is an organic gp. contg. an aromatic and hydrophilic gps. Pref. the membrane comprises a skin layer and a porous layer with pores larger than or



equal to the size of those of the skin layer.

The membrane can be used in reverse osmosis and ultrafiltration and can selectively separate a solvent from liq. mixt. e.g. solns., emulsions and suspensions.

**AERA-** D15 85934 B/47 = US 4240-990  
Aeration of liquid by pumping past gas nozzle - by propeller blades on rotating tube terminating in nozzle

AERATION IND INC 21.04.78-US-898983 (10.04.79-US-030949)

J02 (23.12.80) \*WP7900-958 + B01f-03/04

10.04.79 as 030949 (14pp1358)

An aerator has a support tube from the end of a rotatable conduit and with gas outlets below propeller blades attached to the tube outer surface and extending axially of the tube. Each blade has the leading end outer edge extending outwardly from the tube at less than 90 deg., and an impelling surface raked at a given axial position and changing to a more positive rake from leading to tail end.

The rake is pref. negative at the leading end and changes to positive at the tail end. Plates below the gas outlets break up bubbles and produce a radial flow, there being one plate in one plane and two further plates in a transverse plane. The arrangement provides a non-fouling propeller.

**BIOL- ★** D15 01824 D/02 ★US 4241-025  
Chlorinator holding stack of horizontal soluble sticks - with nip allowing passage of partially dissolved sticks

BIO-LAB INC 02.08.79-US-063344

(23.12.80) B01d-11/02

02.08.79 as 063344 (5pp295)

Chlorinator floats in the body of liq. to be treated. It comprises a cannister sized to contain a vertical stack of horizontal elongate chlorinator sticks which are slowly soluble in the liq. A pair of the side walls of the cannister include protrusions to form a nip between them which will hold a normal sized stick above them in the stack, but will permit the passage of a stick of reduced dimensions after partial dissolution.

The cannister is supported in a float which has a central aperture into which the cannister fits. The cannister is formed with a series of ridges so that it may be positioned in one of a number of vertical positions for variation in the degree of chlorination.

The appts. is described for use in the chlorination of a swimming pool, but it may be used to feed chemicals other than Cl<sub>2</sub> to a body of water. The Cl<sub>2</sub> conc. is automatically regulated by response to the transverse dimension of the chlorinator sticks.

**DOWA** D15 29781 B/16  
Removal of arsenic from solns. of sulphuric acid - contains ferrous ions, comprises oxidising part of the soln., then remixed with ferric hydroxide contg. arsenic

DOWA MINING KK 14.12.77-JP-150175

J01 M25 (23.12.80) \*BE-872-703 C01g-28/02 + C01b-17/08.12.78 as 967872 (5pp926)

Trivalent As is removed from a sulphuric acid soln. contains ferrous ions by initially oxidising a part of the soln. under pressure to form ferric ions. This section of the soln. is agitated with the remainder so that the wt. ratio of trivalent As is 2-40.

The pH is adjusted to 3.5-4.6 so that a ppt. is formed. The ppt. is then being removed by filtration. When oxidising the soln. sufficient sulphuric acid is added to the pptn. of ferric hydroxide.

A high filtration efficiency is obtd. and the method can be used for hydrometallurgical use.

**METG** D15 84875 Y/48 =  
Reducing BOD of gas condensates contg. phenols and tars by extracting with ether and/or ketone

METALLGESELLSCHAFT AG 05.05.76-DE-619805

J01 (23.12.80) \*DE2619-805 + C07c-37/70

14.07.76 as 705111 (5pp982)

A gas condensate from the destructive distn. of coal is treated by extracting the condensate with diisopropyl ether or methylisobutylketone to form a phenol-contg. extract and a dephenolated gas condensate; (b) sepg. the extract into two phases and a phenol phase by distn. and recycling the solvent; (c) extracting the condensate with the same solvent but with a smaller quantity to remove tar bases and form a gas condensate free of tar base.

Process further comprises (d) chemically treating the extract and sepg. into another solvent phase and a tar phase by contacting the extract with NaOH and/or H<sub>2</sub>SO<sub>4</sub>; and (e) distilling the organic solvent, NH<sub>3</sub>, CO<sub>2</sub>, H<sub>2</sub>S and HCN which are removed separately to produce a decontaminated gas condensate suitable for biological oxidn. treatment.

**BATT ★** D15 01946 D/02 ★V  
Concn. of aq. sludge, e.g. from waste water treatment - by osmotic filtration assisted by progressively increasing pressure

BATTELLE MEMORIAL(PORT/) 05.06.79-CH-005191

J01 X25 (11.12.80) B01d-13/02 C02f-11/12

03.06.80 as CH0068 (20pp448) (F) DS-476144 DE1927740 NL 600932 GB1414564 DS-266971 GB-383199 DS-179086 N(JP US)

The process is of the type in which sludge is fed downwardly through a tubular passage which is vertical or steeply inclined. One wall of the passage comprises or consists of a porous cathode. Also in longitudinal contact with sludge in the passage is a porous anode. The anode is placed opposite and parallel to the cathode. The solids, which develop a negative charge, migrate towards the anode so that liq. is pushed towards and through the porous cathode by electro-osmosis.

The sludge is now advanced continuously through the passage in this way, the sludge is subjected to a progressively increasing hydrostatic pressure which assists in pressure filtration of the sludge. The porous cathode pref. comprises a perforated membrane covered with a filter sheet with very fine perforations, i.e. of 10 and 100 microns.

The anode pref. forms another wall of the passage and is of a similar, perforated construction to the cathode. The anode is able to release gas arising from electrophoresis whilst suspended particles inside the passage. The sheets of the cathode sections of endless bands which are moved continuously through the passage in the same direction as the sludge. The electrode between anode and cathode pref. has a voltage gradient of 10 and 70 V/cm.

Used for dehydration of aq. sludge, e.g. sludge arising from treatment of mineral ores such as bauxite, from clayey g. and from the mfr. of paper. Provides simplicity and coupled with efficient filtration unhindered by blinding of the filter sheet.

**IVAN = ★** D15 01960 D/02 ★W  
Prod. of acrylic polymers by radical polymerisation - with prepolymer stage followed by granulation and drying

IVANOV CHEM TECHN(KISE/) 29.05.79-WP-SU0034

A14 (11.12.80) C08f-20/02

29.05.79 as SU0034 (33pp367) (R) US3503941 US3644305 (GB1319632 DS1218157 FR2104041 J70018484 J70005108 N(D US))

Prod. of acrylic polymers is carried out by (a) subjecting a mixt. contg. at least 40 wt. % monomers to radical polymerisation or near the decompn. temp. of the radical initiator until it commences, (b) cooling the mixt. to the glass-transition temperature of the polymer until the degree of conversion is 50-90%, (c) granulating the polymer.



...ting prepolymer, and (d) drying the granules by contacting with  
at carrier (e.g. hot air) successively in a pneumatic conveyor, a  
one, a dilute-phase fluidised bed and a dense-phase fluidised

...e process is esp. useful for producing water-soluble  
polymers; e.g. for use as coagulants, flocculants, thickeners,  
ng agents, flotation agents, etc. Such products have a higher  
ee of conversion, give more viscous solns. and have a lower  
sture content than similar products produced by suspension

polymerisation.

Suitable monomers are acrylic and methacrylic acid and their  
salts, esters and amides, pref. used in liq. form or as aq. solns.

## D16: FERMENTATION INDUSTRY

C ★ D16 D/02 ★ AT 7802-193  
biotic substance mfr.  
BIOCHEMIE GMBH 29.03.78-AT-002193  
304 (15.12.80) C12p-01/02

CA- ★ D16 00811 D/02 ★ BE -884-876  
robial cells immobilisation - on a solid support without a  
mical binder, by conditioning them in water  
UNIV CATHOLIQUE LOU 22.08.80-BE-884876  
496 B04 (16.12.80) C12n  
8.80 as 884876 (14pp520)  
erical microbial cells are immobilised in a process in which they  
'conditioned' in an aq. medium and then concentrated with a  
d support.  
he process gives a high and even cover of the cells over the  
port in a single stage process without the use of chemical agents.  
cells may then be used for the same purpose as untreated cells  
he same type.

CA- ★ D16 00812 D/02 ★ BE -884-877  
mobilisation of microbial cells - in which the cells or the support  
given a colloidal coating  
UNIV CATHOLIQUE LOU 22.08.80-BE-884877  
496 B04 (16.12.80) C12n  
8.80 as 884877 (15pp520)  
ne immobilisation of spherical microbial cells on a solid support,  
cells or the support are treated to form a single layer of colloidal  
icles on the surface, then the cells and the support are contacted.  
ne cells are typically of *Saccharomyces cerevisiae* and these  
r be treated with independently produced colloidal particles  
ch may be organic or of a metal oxide or hydroxide such as of  
minium or iron. Suitable organic particles are natural or  
hetic latexes. The solid support may be a mineral or organic  
erial, such as polyamide, polyester, polyolefin, vinyl cpd.,  
a, silicates, aluminosilicates, metal oxides, metals, alloys etc.  
rocess gives very even cover of cells on the support, is easy to  
y out, and gives very good adhesion of cells on the support.

CA- ★ D16 00813 D/02 ★ BE -884-878  
obilisation of microbial cells - in which the cells or the support  
reated with metal  
UNIV CATHOLIQUE LOU 22.08.80-BE-884878  
496 B04 (16.12.80) C12n  
8.80 as 884878 (13pp520)  
erical microbial cells are immobilised in a process in which the  
and/or a solid support are treated with soln. contg. simple  
or polynuclear metal ions, and then the support and the cells are  
acted together.  
e microbial cells are typically of *Saccharomyces cerevisiae*.  
support may be of a mineral or organic material such as silica,  
ates, aluminosilicates, metal oxides, metals and their alloys,  
amides, polyesters, polyolefins, and vinyl cpds. These may be in  
physical form, such as granules, powders, sheets, films, fibres  
The metal ions are usually obtd. from metal salts such as the  
ides, sulphates, nitrates, of magnesium, alkaline earth metals,  
minium or transition metals.  
rocess is simple and effective, the prod. having the cells evenly  
ring to the support by a strong bond.

2- ★ D16 D/02 ★ BR 7903-741  
orative condenser for use in alcohol vapour distn. system  
POP CENT PROD ACUC(ALCO-) 11.06.79-BR-003741  
1 Q78 (16.12.80) C12f-01 F28b-01/02

3- ★ D16 D/02 ★ BR 8006-282  
i. of microbial malic dehydrogenase  
WESP UNIV ESTADUAL 30.09.80-BR-006282  
2.12.80) C12n-09/04

CHEV/ ★ D16 00841 D/02 ★ FR 2451-201  
Extinguishing powder contg. vegetal prod. pref. of marine origin -  
partic. calcium and magnesium contg. seaweed e.g. *Lithothamnium*  
calcareum and Maerl

CHEVRIER A V 13.03.79-FR-006930  
K01 P35 (14.11.80) A62d-01  
13.03.79 as 006930 (6pp950)  
A novel extinguishing powder contains a vegetal prod. which is pref  
in the organic state, partic. one of marine origin. Partic. pref. is an  
alga, esp. a calco-magnesian alga, pref. originating from  
*Lithothamnium Calcareum* and/or Maerl calco-magnesian algae,  
having an extremely porous structure which exerts a thermo-  
regulating action by heat absorption.

The powder can be used, opt. complexed with other materials, for  
insulating, fireproofing, fire extinguishing or absorbing combustible  
liquids, opt. using a fire-extinguisher, in the compressed and/or  
granulated state. It does not have the drawbacks of inorganic  
extinguishers and combines good props. of hardness, density,  
stacking, dielectric and flow.

CNRS D16 75958 Y/43 = GB 1582-294  
Antischistosomal immunological agent - contains schistosome  
extracts comprising target antigens of schistosomicidal  
medicaments, used to treat bilharziasis

INST NAT SANTE RECH MED (INSP) 29.06.76-FR-020687  
B04 C03 (07.01.81) \*BE-855-898 A61k-39 + A61k-45/06  
27.06.77 as 026775 (9pp977)  
Prepn. of anti schistosomal immunological agent from human or  
animal schistosomes comprises contacting a schistomicidal drug  
with a whole antigen extract from the schistosomes, whereby the  
drug is bound as a ligand to those antigens of the extract which are  
target antigens w.r.t. the schistomicidal drug, and opt. sepg. the  
target antigens from the drug.

Prior art chemotherapy is curative but does not prevent  
reinfection.

CHET D16 85018 Y/48 = GB 1582-303  
Analysis of biological specimens by ionising heat decomposition  
prods. - with three-dimensional plotting of results giving  
reproducible results

CHEMETRON CORP 03.05.76-US-682781  
B04 S03 S05 (V05) (07.01.81) \*DE2718-880 G01n-27/62 G01n-33/48  
+ C12q-01  
25.04.77 as 017217 (44pp1358)  
For classification and/or identification of an unknown biological  
specimen, a sample is subjected to programmed thermal  
degradation followed directly by ionisation and mass spectrometric  
analysis of the sequence of gaseous degradation prods., monitoring  
relative ion intensities produced for particular ion masses as a  
function of time or temp.

The evolution pattern of molecular fragments generated is used as  
the identification characteristic, by comparison with patterns for  
known specimens, partic. microorganisms or cellular tissue.  
Spectra are given in the specification for certain bacteria and  
lymphocytes.

CHET D16 85018 Y/48 = GB 1582-304  
Analysis of biological specimens by ionising heat decomposition  
prods. - with three-dimensional plotting of results giving  
reproducible results

CHEMETRON CORP 14.03.77-US-777366  
B04 S03 S05 (V05) (07.01.81) \*DE2718-880 G01n-27/62 G01n-33/48  
+ C12q-01  
27.04.77 as 017560 (14pp1358)  
Known or unknown prods. obtd. from thermal degradation of  
biological specimens with programmed heating are characterised  
by ionising to cause negligible fragmentation, detecting ion currents  
corresp. to different mass-to-charge ratios and recording the  
currents.

A three-dimensional array of currents corresp. to all detectable  
ratios in a range at successive instants during the heating sequence  
is recorded, with the dimensions representing currents, ratios and  
specimen temps. respectively. Representative data from the array  
are recorded for each specimen and compared with data from



known specimens. The method is partic. applicable to bacteria, yeasts, moulds, viruses, unicellular organisms, lymphocytes, leukocytes, phagocytes, erythrocytes and platelets.

**GDAN** D16 59473 Y/34 = GB 1582-378  
(N)-Glucosyl derivs. of polyene macrolide antibiotics - such as polyfungin, amphotericin B and nystatin prepd. by precipitation with aq. solutions and their (N)-methyl-glucamine salts  
GDANSKA POLITECH (CHPR) 22.04.76-PL-188979  
B05 C03 (07.01.81) \*BE-853-893 A61k-31/71 C07g-11 C07h-17/08  
12.04.77 as 015058 (7pp964)

The N-methylglucamine salt of an N-glycosyl deriv. of a polyene macrolide antibiotic is prepd. by reacting a polyene macrolide antibiotic contg. at least one amino gp. with a saccharide selected from aldose monosaccharides, ketose monosaccharides, aldose oligosaccharides and ketose oligosaccharides in an organic solvent to form an N-glycosyl deriv. of the antibiotic; precipitating the N-glycosyl deriv. by addn. of water or an aq. soln. in an inorganic salt; recovering the ppte., and reacting with N-methylglycine. Pref. the inorganic salt is ammonium sulphate.

The salts exhibit antifungal antibiotic activity. They can be prepd. without using costly or combustible solvents, and without sepn. of prod. from unreacted sugar.

**BRPE** D16 55487 A/31 = GB 1582-530  
Polyploid asporogenic yeast prepd. from a sporogenic yeast - by continuous culture in nutrient and carbon source

BRITISH PETROLEUM LTD 08.11.76-GB-046329  
(07.01.81) \*FR2370-093 + C12n-01/16 C12r-01/73  
27.10.77 as ----- (4pp977)

Asporogenous polyploid yeast is produced by subjecting a sporogenous polyploid yeast to a period of continuous submerged cultivation in a broth comprising an aq. nutrient medium and a utilisable carbon source. The period is sufficient to give the prod. which is then isolated. Pref. the pH of the broth is 3-8.

No mutagenic agents are used in the process.

**REAP-★** D16 00926 D/02 ★GB 2050-418  
Identifying *Salmonella* and *Serratia* species - in food and faeces, by incubating with ester substrate and treating with diazonium salt

LAB DE RECH API 25.05.79-FR-014355  
B04 E19 (D13) (07.01.81) C12q-01/44

08.05.80 as 015234 (5pp1251)

*Salmonella* and *Serratia* species are identified, and distinguished from *Proteus* and *Providencia*, by treatment with a diazonium salt (I) and, as enzyme substrate (II), an ester having a 7-10C aliphatic chain. Pref (II) are the heptanoate, caprylate, nonanoate or caprate derivs. of 2-naphthol, or esters derived from ortho- or para-nitrophenol, coumarin, indoxyl (opt. substd), 4-methylumbelliferone, fluorescein, phenolphthalein, estuletin, or hydroxyquinoline.

Pref (I) are Fast Blue BB, Fast Blue B, Fast Blue BR or Fast Violet B. Both reactions (ester hydrolysis and colour formation) are carried out in the same medium, and the test can be combined with detection of beta-glucosidase, beta-galactosidase or beta-glucuronidase to detect other species such as *Klebsiella*, *Enterobacter* or *Escherichia*.

The test is used to identify enterobacteria in foods and faeces. Only *Salmonella* and *Serratia* are able to hydrolyse (I) and thus develop a colour with (I); with *Providencia* or *Proteus* the natural pale yellow colour of (I) persists.

**YEDA ★** D16 D/02 ★IL -53-893  
Device for harvesting cell cultures - from wells of a standard culture cell culture plate

YEDA RES & DEV CO LTD 26.01.78-IL-053893  
(30.11.80) C12m-03

**KIKK** D16 26543 W/16 = J8 0048-793  
Synthesis of cyclic adenlic acid - cultures in medium contg. phosphoric acid or its salts with addn. of borate

KIKKOMAN CORP 30.03.73-JP-035687  
B02 (08.12.80) \*J49124-289 + C12p-19/32 C12r-01/15

**KIKK** D16 45146 W/27 = J8 0048-794  
Cyclic uridylic acid - produced by *Corynebacterium*, *Arthrobacter* and *Microbacterium*

KIKKOMAN CORP 18.06.73-JP-067769  
B02 (08.12.80) \*J50018-691 + C12p-19/32 C12r-01/15

18.06.73 as 067769 (13pp)

Cyclic-3',5'-UMP (I) is produced by *Corynebacterium*, *Arthrobacter* and *Microbacterium*.

In an example, *C. murisepticum* (FERM-P 206), *Arthrobacter*-11 (FERM-P 207), and *Microbacterium* No. 205 (FERM-P 106) were cultured on a medium (pH 8.0) contg. glucose 5, urea 0.5, KH<sub>2</sub>PO<sub>4</sub> 0.5, K<sub>2</sub>HPO<sub>4</sub> 0.5, MgSO<sub>4</sub>·7H<sub>2</sub>O 0.5, peptone 1, yeast extract 0.5, and ZnSO<sub>4</sub>·7H<sub>2</sub>O 0.01% added with 3 g/l of uracil (II) or uridine (III) at 30 deg. C for 70 hrs.

(I) prodns. were 107 and 99, 77 and 85, and 172 and 185 mg/l resp.,

with addn. of (II) and (III) for *C. murisepticum*, *Arthrobacter*-11, *Microbacterium*, compared with 6, 5 and 7 mg/l resp. without of (II) or (III). (J50018691).

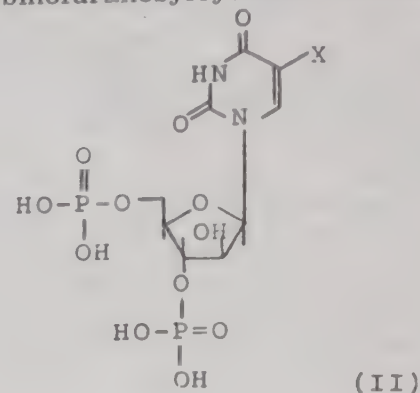
**YAMS** D16 06541 Y/04 = J8 0048  
Arabinofuranosylpyrimidine monophosphoric acids - ha  
antivirus and antiulcer activity

YAMASA SHOYU KK 02.06.75-JP-065353  
B03 (08.12.80) \*J51142-596 + C12p-19/32 C12r-01/80

02.06.75 as 065353 (5pp140)

Arabinofuranosylpyrimidine-3',5'-diphosphoric acid of formula (II) (X is H, halogen or alkyl) at a concn. of 5-30% is reacted with nucleotidase produced from mould belonging to *Penicillium*, *Penicillium citrinum*, *Penicillium steckii*, *Penicillium char*, *Penicillium atramentosum*, *Penicillium canescens*, *Penicillium cyclopium*, etc. in an amt. 1-20 pref. 2-10 times, requires to decompose an equimolar amt. of 3'-pyrimidine nucleotide w.r. arabinofuranosylpyrimidine-3',5'-diphosphoric acid at a pH of pref. 4.0-6.0, at 10-70, pref. 40-60 deg. C, for 1-48 hrs.

The 3'-monophosphoric acid linkage is selectively hydrolysed to obtain an arabinofuranosylcytosine-51-monophosphoric acid in high yield.

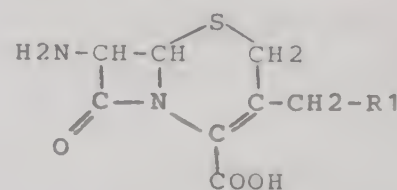


**TAKE** D16 68428 T/43 = J8 0048  
Alpha-amino-cephalosporins prepn - by enzymatic reaction of alpha-amino-acids with 7-amino-cephem cpds

TAKEDA CHEMICAL IND KK 02.04.71-JP-020586  
B02 (08.12.80) \*DE2216-113 C12p-35/04 C12r-01/\*

02.04.71 as 020586 (17pp)

Antibacterially active cephalosporins of formula (I) (where R is a 6-membered cyclic hydrocarbon residue or a 5-membered heterocyclic gp. and R1 is H or an organic residue linked to the methylene gp. via an O-, S- or N-atom) are produced in high yield by subjecting an acid H<sub>2</sub>N-CHR-COOH or its reactive deriv. and an amino-cephem cpd. of formula (II) to the enzymatic action of a microorganism of the genus *Mycoplana*, *Protaminobacter*, *Acetobacter*, *Xanthomonas*, *Pseudomonas*, *Aeromonas*, *Escherichia*, *Staphylococcus*, *Arthrobacter*, *Protocorynebacterium*, *Flavobacterium*, *Clostridium*, *Spirillum*, *Bacillus* which is capable of effecting the desired transformation (J47025388).

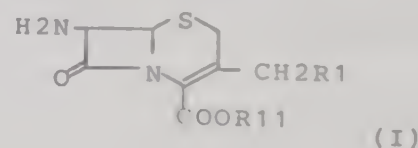


**TAKE** D16 35402 V/19 = J8 0048  
Cephalosporins prodn - by cultivating 7-aminocephem cpds with alpha-amino acids

TAKEDA CHEMICAL IND KK 30.05.72-JP-053694  
B02 (08.12.80) \*J49013-393 + C12p-35/04 C12r-01/\*

30.05.72 as 053694 (13pp)

Cephalosporins of formula (I) are produced from alpha-amino acids or their functional derivs. and 7-aminocephem cpds. with Me position (I; where R1 is H, organic residue with O, S, or N connective bond; R11 is metal ion or residue easily substd. with enzyme prepn. of *Xanthomonas*, *Acetobacter*, *Gluconobacter*, *Pseudomonas*, *Mycoplana*, *Protaminobacter* or *Aeromonas* (J49013393).









a disinfectant or involved in suppression of pathogenic bacteria.

**SUMO** **D16** **80990 B/45 #US 4239-854**  
Carriers for enzyme immobilisation - comprising macroporous amphoteric ion-exchange resins with introduced carboxymethyl gps.

**SUMITOMO CHEMICAL KK** 25.04.78-DE-818086 (24.04.78-US-899466)

**A96 B04** (16.12.80) \*DE2818-086 + C08g-02 C09j-08  
24.04.78 as 899466 (9pp937)

An enzyme immobilisation carrier comprises a macroporous synthetic amphoteric ion exchange resin with a specific surface area of at least 1 square metre/g resin contg. macropores of pore dia. 10-2000 angstroms having a total vol. of at least 0.1 cc/g resin. The resin comprises (a) phenol resin matrix contg. prim., sec., tert amino gps. and quat. ammonium gps. as anion exchanger with a carboxymethyl gp. linked to the matrix through a phenyl ether linkage or prim. or sec. NH<sub>2</sub> gp. as cation exchanger, and (b) polystyrene or PVC matrix contg. prim. or/and sec. NH<sub>2</sub> gps. as anion exchanger with carboxymethyl gps. linked through the amino gps. as cation exchanger.

The cation exchange capacity due to carboxymethyl gp. is not less than 0.5 meq/g resin and the anion exchange capacity due to amino or substd. amino gps. is not less than 1 meq/g resin.

**FARB** **D16** **75673 B/42 = US 4239-902**  
N-Carboxy:acyl amino acid ester derivs. - chromogenic substrates for diagnostic assay of chymotrypsin-like enzymes

**BAYER AG** 11.04.78-DE-815555  
**B04 J04 S03** (B05 S05) (16.12.80) \*EP---4-649 G01n-31 + C07c-101/08

08.03.79 as 018701 (8pp945)  
N-Carboxyacylamino acid esters of formula HOOC-X-CONH-CH(CH<sub>2</sub>Z)COOY are new. In the formula, X is o-phenylene, 2-4C n-alkylene or 2-4C n-alkylene or alkenylene substd. by 1-4C alkyl. Y is alpha or beta-naphthyl or (4-nitro)phenyl. Z is phenyl or indolyl both obtd. OH-substd.

The cpds. may be prepd. by reacting an amino acid ester, H<sub>2</sub>N-CH(CH<sub>2</sub>Z)COOY with a dicarboxylic anhydride derived from X(COOH)<sub>2</sub> at pH 2-7 (4-6) in solvent. They are readily soluble in aq. systems and used as chromogenic substrates for (dis)continuous determin. of enzymes with a chymotrypsin-like specificity, esp. cathepsin G.

**COUE** **D16** **14730 C/00 = US 4241-179**  
Transaminase determin. in biological fluids - with suppression of interference from endogenous amino acids

**COULTER ELECTRONICS INC** 14.08.78-US-933183  
**B04 S03 S05** (23.12.80) \*BE-878-224 C12q-01/52  
14.08.78 as 933183 (7pp393)

In the quantitative determin. of glutamate oxalacetate pyruvate or glutamate transaminase present in biological fluid, esp. human blood serum, in which L-glutamate produced by transamination is oxidatively deaminated with simultaneous prodn. of reduced beta-nicotinamide adenine dinucleotide (NAD), the interference caused by the presence of endogenous material (I), is obviated.

This involves (a) reacting (I) in the fluid in an oxidn.-redn. reaction with NAD in the presence of glutamate hydrogenase to consume (I) by its conversion to an oxidn. prod. of the reaction with the prodn. of reduced NAD, (b) reacting the reduced NAD in the fluid with pyruvate in the presence of lactate dehydrogenase to return the reduced NAD to its oxidised form with redn. of pyruvate to lactate, (c) inhibiting the lactate dehydrogenase in the fluid and (d) producing in the fluid to glutamate from alpha-ketoglutarate and amino acid by the transamination for its oxidative deamination and prodn. of reduced NAD in amt. proportional to the content of transaminase in the fluid.

**OWEI** **D16** **01898 D/02 ★US 4241-180**  
Differential detection of surfactants on surfaces - using enzyme deactivated by ionic but not by nonionic surfactant

**OWENS-ILLINOIS INC** 27.02.78-US-881224  
**J04 L01** (23.12.80) C12q-01/46  
27.02.78 as 881224 (6pp367)

The nature (nonionic or ionic) of a surfactant on a surface is determined by first applying (a) an enzyme which is bound but not deactivated by nonionic surfactants and is both bound and deactivated by ionic surfactants, and (b) an indicator which produces a detectable response to a product formed by reaction of the enzyme with a given substrate (I).

An ionic surfactant is then added to bind and deactivate any remaining unbound enzyme, and (I) is added to react with any non-deactivated enzyme. A response by the indicator indicates that the original surfactant was nonionic, and the absence of a response indicates an ionic surfactant.

The test is esp. applicable to glassware which may have been treated with surfactant for surface protection during mfr. The test is simple, rapid, and can be formed in the field by non-technical

personnel. Quantitative results can be obtained by measuring response time of the indicator.

**MINN** **D16** **01899 D/02 ★US**  
Broth for detecting deoxyribonuclease positive microorganism has DNA, toluidine blue and lambda carrageenan as indicators  
**MINNESOTA MINING CO** 02.05.79-US-035290  
**B04** (23.12.80) C12q-01/04

02.05.79 as 035290 (4pp985)

A broth medium for detecting DNase positive microorganism comprises (a) a source of conventional (I) supporting nutrient source of divalent cations, present in a concn. sufficient to DNase activity; and (c) a biological indicator comprising toluidine blue and lambda carrageenan. The indicator is present in sufficient qty. so that the medium turns reddish-pink or violet in the presence of (I).

Preferably the indicator is (by wt. of medium) 0.02-0.035 wt.% 0.002-0.005 wt.% toluidine blue and 0.003-0.2 wt.% lambda carrageenan.

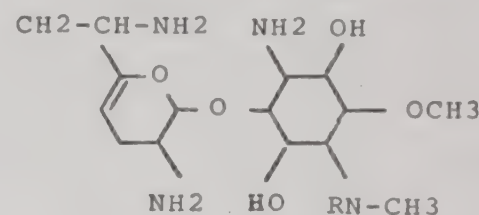
The medium is easily dehydrated for storage (up to 6 months without deterioration) and handling and can be easily reconstituted at room temp. by addn. of water for use. It provides a clear, unambiguous, rapid colour change in the presence of (I).

**KYOW** **D16** **66600 B/37 = US 4241-181**  
Antibacterial fortimicin KG derivs. - prepd. by culturing *Micromonospora* species

**KYOWA HAKKO KOGYO** 03.03.78-JP-023552  
**B03 E13 (D22)** (23.12.80) \*DE2908-150 C12r-01/32 + C12p-19/05.03.79 as 017276 (9pp954)

Prodn. of at least one of 3 fortimicin factors KG1-3 of formula (I) comprises culturing the species *Micromonospora olivasterospora* in a nutrient medium until antibacterial activity is detected and isolating. Spectral data for (I) is also claimed, where R is H.

In (I) R is -COCH<sub>2</sub>NH<sub>2</sub> or H. (I) are antibiotics which exhibit activity against a broad spectrum of bacteria.



**ESSO** **D16** **01901 D/02 ★US 4241-182**  
Methyl ketone(s) prepn. from 3-6C sec. alcohol(s) - methylotropic microorganism or sec. alcohol dehydrogenase derived from microorganism

**EXXON RES & ENG CO** 27.03.79-US-024302 (14.04.78-US-896476) **E17** (23.12.80) C12n-01/30 C12p-07/26

27.03.79 as 024302 (+ 14.4.78-US-896476) (126pp985)  
Conversion of 3-6C sec. alcohols (II) to the corresp. methyl ketone(s) comprises oxidising (II), under aerobic conditions, with methylotropic microorganism or with an enzyme derived from the cells, in a nutrient medium. The microorganism has been previously grown, under aerobic conditions, in a nutrient medium contg. a carbon-contg. cpd. which provides C, an energy source and induces sec. alcohol dehydrogenase (SAUH) enzyme activity in the cells. The microorganism is e.g. *Methylosinus trichosporium*. NRRLB-1122

The enzyme prepn. is pref. either (i) a bacterial or yeast suspension which has been grown on a Me radical donating cpd. (2) is a yeast or bacterial derived cell-free extract, esp. purified SADH of mol. wt. 95000 + 3000 dalton (Biogel chromatography). has 2 Zn atoms per molecule protein, and the medium also contains NAD. When the enzyme prepn. is a cell free extract, conversion is 5-55 deg.C/pH4-9. The enzyme is pref. immobilised and conversion can be continuous or batchwise.

(III) is pref. methane or a methyl radical donating cpd. e.g. Me methylamine, methylformate, methyl carbonate, dimethyl ether. (II) is esp. 2-butanol giving 2-butanone (Ia). (I) accumulates extracellularly.

**GREAS** **D16** **01902 D/02 ★US 4241-183**  
Stabilisation of mycelial alpha-galactosidase - by treatment with glutaraldehyde

**GREAT WESTERN SUGAR** 23.02.79-US-014579  
(23.12.80) C12n-09/96

23.02.79 as 014579 (4pp367)

Stabilisation of the alpha-galactosidase activity of mycelium derived from a raffinose-utilising strain of *Mortierella* sp. (ATCC 20034) is carried out by (a) suspending the mycelium in an aq. medium; (b) opt. adding an active-site protection agent (I) in an amt. of 1-10 wt.% based on dry mycelium; (c) adding glutaraldehyde (II) in an amt. of 5-25 (pref. 7.5-15) wt.% based on dry mycelium; maintaining the pH of the aq. medium at 6.5-8.5; (e) mixing so as to minimise oxygen inclusion for 0.25-2.0 (pref. 0.5-1.5) hr; and (f) filtering.



mycelium and washing to remove excess (II).  
 product is esp. useful for hydrolysing raffinose to D-galactose  
 rose in beet molasses. It retains high activity over long  
 periods (e.g. 2-3 weeks).

**D16** 48398 C/28 = US 4241-186  
 of nutrient substrates contg. low methoxy pectin - which is  
 with polyvalent metal cation  
 VIRON INC 18.12.78-US-970347  
 (80) \*DE2950-776 C12n-01  
 as 970347 (5pp931)

biological growth medium of pH 4-9 is prep'd. in a culture  
 container, and contains 10-30 g. of medium contg. a low  
 pectin material of less than 7% methoxyl content as the  
 gelling agent.

method comprises introducing a predetermined amt. of  
 ions onto an absorbent support material which is then  
 in the container, then combining the medium and calcium  
 to produce gelling.

method uses inexpensive and readily available materials, and  
 require the temp. of the medium to be elevated.

**D16** 01903 D/02 ★ US 4241-187  
 for culturing biological cells and tissues - using perfused  
 nutrient using microporous membrane  
 GOVERNMENT 27.03.79-US-024247  
 (80) C12m-03  
 as 024247 (7pp295)

al cells and tissues are cultured using perfused blood as the  
 source. The appts. used includes a blood inlet and outlet,  
 positioned between them, a pair of culture chambers. Each  
 chamber is formed between the wall of a housing and a  
 porous membrane.

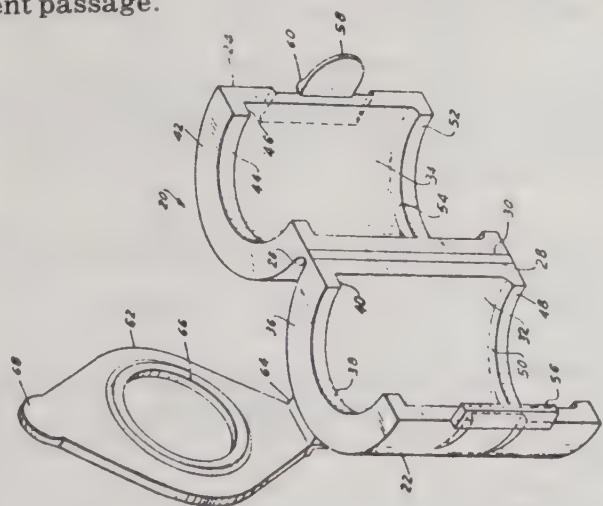
or tissues are introduced to the chambers. The membrane is  
 able to plasma solutes and cell products, and impermeable to  
 cellular components. A blood flow passageway is maintained  
 the appts. external to the culture chambers, but in contact  
 membrane.

appts. may be used in vaccine prodn. and for the in vitro  
 of potential anti-cancer agents prior to in vivo testing in  
 dry test animals. The appts. can support high density cell  
 sue growths. There is a high linear velocity flow of the  
 blood to avoid thrombosis.

**D16** 01904 D/02 ★ US 4241-188  
 organisms culture bottle with stopper lock - allowing stopper  
 sufficiently to vent bottle interior  
 TON DICKINSON CO 09.10.79-US-082616  
 (80) C12m-01/24  
 as 082616 (6pp1358)

has a neck with a radial annular lip, a stopper in the neck  
 stopper lock movably mounted on the neck and including side  
 between upper and lower inward flanges to engage the stopper  
 surface and lip lower surface respectively. Flange spacing  
 the stopper to rise sufficiently to vent the bottle interior under  
 pressure.

lock is movable along the neck between positions engaging  
 and lip, and is pref. an integral plastics moulding with a pair  
 of semi-cylindrical halves with fasteners and a hinged cover  
 an snap fit within the aperture formed by the upper flange.  
 upper is pref. slit diametrically for part height from the base  
 a vent passage.



**D16** 90583 C/51 = WP 8002-694  
 organism culturing tube - with stopper moving axially under  
 ssure to expose vent aperture  
 RUMO CORP 01.04.80-JP-042163 (04.06.79-JP-069713)  
 13 (11.12.80) \*EP-19-940 B011-03 C12m-01/24 + B65d-51/16  
 as J00120 (29pp295) (J) J37015499 J53026480 J49073491 N(AU

A microorganism culturing tube includes a culture medium which is  
 hermetically sealed within the tube by a stopper after inoculation  
 The stopper can move axially in response to positive pressure inside  
 the tube and after a predetermined movement the gas is vented  
 through an aperture which becomes uncovered. The stopper has an  
 annular groove which receives a bead surrounding the mouth of the  
 culture tube and serving to hold the stopper in its sealing position.  
 An additional groove is provided in the stopper beyond the vent  
 aperture and prevents the stopper from being blown off from the  
 tube if excessively high pressures develop..

The tube may be used for the anaerobic culture of microorganisms  
 and vents the tube if a high pressure is developed. The tube can also  
 be used for aerobic culturing by partially inserting the stopper so  
 that the aperture remains exposed.

**MAUR-★** **D16** 01964 D/02 ★ WP 8002-695  
 Edible dyes with brown to black colour - prep'd. by enzyme  
 treatment of roasted malted cereals, esp. barley  
 MAURIBROS & THOMSON (PARK/) 04.06.79-AU-009049  
 (11.12.80) A231-01/27 C09b-61 C12p-01

03.06.80 as AU0020 (18pp513) (E) AU---4080 AU--17689 AU--10868 AU--  
 47930 AU--64300 AU--49162 AU--17264 US3353960 US3594179 US3711292  
 US3716365 GB1303644 GB1307069 GB1403391 GB1442402 GB1474807  
 CA-975313 DE1517864 DE2325547 SU-506844 1.Jnl.Ref N(AU DK JP)  
 E(CH DE FR GB JA US)

Edible colourants (I) are made by first digesting a roasted malted  
 cereal in water using at least one protease enzyme and at least one  
 carbohydrase enzyme, followed by sepn. of an aq. extract contg. the  
 colourant. The extract may be concentrated or dried to give a conc.  
 extract.

Products (I) contg. less than 100 mg/kg 4-methyl-imidazole (II)  
 are new. (I) are dark brown to black prods. which are useful  
 substitutes for ammonia process caramel without having the high  
 (II) contents of the latter..

(I) are useful for colouring foodstuffs, beverages,  
 pharmaceuticals, toiletries, etc.

**AHSC★** **D16** 01965 D/02 ★ WP 8002-697  
 Substrates for turbidimetric lipase assay - comprising lyophilised  
 emulsion of tri:glyceride, buffer, surfactant and bulking agent  
 AMER HOSPITAL SUPPL CORP 06.05.80-EP-301476 (04.06.79-  
 US-045467)

A96 B04 S03 (11.12.80) C09k-03 C12q-01/44 G01n-33/54  
 13.05.80 as U00574 (14pp367) (E) US3917515 US3689364 US3986930  
 US4115313 DE1961983 US4140579 N(DK JA) E(CH DE FR GB NL SE)  
 Substrate for use in the turbidimetric assay of lipase comprises (a) a  
 lyophilised emulsion of 0.5-5 wt. % of a lipase-hydrolysable  
 triglyceride, (b) a buffer to give pH 7-10, (c) 10-40 wt. % of a  
 surfactant and (d) 20-60 wt. % of a bulking agent, e.g. polyvinyl  
 pyrrolidone..

Determn. of lipase concn. in blood and other biological fluids is  
 useful in diagnosis of pancreatic dysfunction. The substrate  
 emulsions are stable and reproducible, and provide rapid and  
 accurate assays.

**RAPI-★** **D16** 01983 D/02 ★ WP 8002-747  
 Ultra-sensitive enzymatic radioimmunoassay method - involving  
 reaction of enzyme-labelled antigen antibody complex with radio-  
 labelled indicator

RAPIDEX LTD 31.05.79-US-044260  
 B04 K08 S03 (11.12.80) A61k-43 G01n-33/48  
 19.05.80 as U00619 (43pp367) (E) US3654090 US3791932 US3839153  
 US3850752 US3879262 US4016043 US4193982 USRE29169 6.Jnl.Ref  
 N(AU DK JP NO SU) E(AT CH DE FR GB LU NL SE)  
 Quantitative determn. of an immunosystem reactant (antigen or  
 antibody) comprises (a) preparing a solid substrate, (b) selectively  
 adhering the reactant to the substrate, (c) binding an enzyme-  
 conjugated antibody to the reactant, (d) reacting a radio-labelled  
 indicator with the enzyme-conjugated antibody, (e) separating radio-  
 labelled product(s) from unreacted indicator, and (f) measuring the  
 radioactivity of the radio-labelled product(s)..

The method is 1000 times more sensitive than radioimmunoassay  
 (RIA) and enzyme immunoassay (EIA) in detecting specific antigens  
 (e.g. cholera toxin and human rotavirus). It can thus be used for  
 earlier diagnosis of disease or for determn. of antigens which may  
 be present in amts. not detectable by RIA or EIA (e.g. carcinogen-  
 DNA adducts and hormone releasing factors).

**CIBA** **D16** 00129 D/01 = WP 8002-848  
 Cultures of Myxococcus fulvus and its extracts - with antibacterial  
 activity against Gram positive species

CIBA GEIGY AG (GBFB-AUGU) 13.06.79-DE-924006  
 B04 (24.12.80) \*DE2924-006 A61k-35/74 C07g-11 C12p-01/04 C12r-  
 01/\* + C12p-21

12.06.80 as CH0070 (26pp1251) (G) WP8000573 2.Jnl.Ref N(AU DK JP  
 US)

A novel culture broth is obtd. by submerged, aerobic cultivation of  
 Myxococcus fulvus DSM 1525 nov.spec. on on aq. medium contg.



carbon and nitrogen sources and mineral salts at 15-40 (pref. 25-35) deg.C.

Also new are prods. obtd. by extracting (a) the harvested cells with a mixt. of water and polar organic solvent (I), or (b) the sepd. culture liq. with a polar organic solvent (II) having limited miscibility with water. Mixtures of active ingredients obtd. from the extracts by treatment with anion exchanger, chromatography on alumina, then freeze-drying are also claimed.

These mixts. can be resolved into 3 individual components all with mol.wt. 1100 or less and all contg. a peptide fragment with Arg:Ala:Val ratio 1:2:3..

The active ingredients are antibacterials effective against Gram-positive species, e.g. the mixt. has min. inhibiting concn. (microg.per ml.) of *Bacillus subtilis* and *Staph. aureus* 1; *E. coli* K12 and *Pseudomonas fluorescens* 30; *Schizosaccharomyces pombe* about 250.

**JOHN- D16 77096 C/44 = WP 8002-849**  
Electrical detection of bacteria - requires measurement of current when voltage pulse is applied to electro-analytical cell

JOHNSTON LABS INC 18.06.79-US-049561

J04 S03 (S05) (24.12.80) \*BE-883-881 + C12q-01/04 G01n-27/26

18.06.80 as U00755 (72pp1055) (E) US2913386 US3282803 US3403081  
US3405030 US3506544 US3743581 US3765841 US3838034 US3857771  
US4009078 US4085009 US4115230 AU-231262 DD-129579 DE2627633  
LE2747033 5.Jnl.Ref N(AU JP) E(DE FR GB SE)

The detection of micro organisms indicates that a substance is contaminated. This is determined by use of an electro analytical cell in series with constant voltage pulses from which a decreasing current indicates presence of micro organisms..

The potential on a particular electroanalytical cell is measured via operational amplifiers when selected by a processor system. The output of one amplifier provides compensation for the effect of incubation of the microbes and is applied via an A/D converter to the processor.

When the relay is closed, a positive voltage pulse is applied to a unity gain operational amplifier and hence to the cell to allow a current to circulate. This current is sensed by an operational amplifier connected as a current to voltage converter to provide input to the processor.

## D17: SUGAR; STARCH

**FIVE ★ D17 00844 D/02 ★ FR 2451-225**  
Continuous centrifugation plant - comprises rotary baskets with liq. collectors in single receptacle with removable partitions for isolating individual baskets

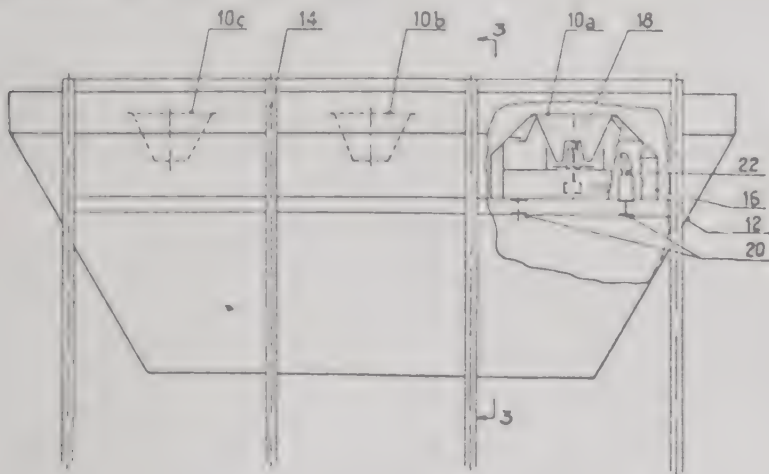
FIVES-CAIL BABCOCK 13.03.79-FR-006324

J01 P41 (14.11.80) B04b-03 B04b-05/10 C13f-01/06

13.03.79 as 006324 (8pp1192)

Plant comprises a number of rotary baskets of vertical axis receiving the product to be centrifuged and provided with a screen through which the liq. phase passes. The liq. phase is recovered in a collector surrounding the basket. The solid particles slide over the screen and are ejected at its upper end. The baskets are placed in a single receptacle and provided with removable partitions allowing each basket to be isolated. The partitions are withdrawn in normal operation.

The space taken up is less than in the case of existing centrifuges of this type, used in e.g. the sugar industry and in which the basket is placed in a large vessel so that the particles ejected from the basket are slowed down by friction with the air before striking the wall of the container and are not broken.



**PROJ- D17 08656 A/05 = GB 1582-480**  
Glucose recovery from cellulosic plants - by steaming and defibration, leaching with aq. alkaline soln. and hydrolysing fibrous residue

PROJECTIERUNG CHEM 20.07.76-AT-005345

E13 F09 (07.01.81) \*DE2732-289 C13k-01/02

18.07.77 as 030031 (9pp954)

Prodn. of glucose from cellulose-contg. vegetable raw materials, comprises treating the material with satd. ste at 160-230 deg.C for 2 minutes to 4 hrs. to disintegrate the material, then lixiviating with aq. alkali soln.; and separating the fibrinous residue and subjecting the residue to acid or enzymatic hydrolysis.

Pref. the alkali is 0.1-4 (0.3-0.6) wt.% NaOH. Glucose of high purity is obtd. by this simple process from e.g. hardwoods, straw, bagasse, grain husks, corncob residues and maize straw.

**NIPB D17 76406 X/41 = J8 0049**  
Gypsum from lime flue gas - and ion exchanger regeneration waste solns

NIPPON BEET SUGAR KK 24.10.73-JP-118954

E33 J01 L02 (E36) (09.12.80) \*J50068-998 + C01f-11/46

24.10.73 as 118954 (2pp)

Lime cake is dispersed in an ion exchange resin reused to treat flue gas contg. SO<sub>2</sub> to form gypsum.

In an example 10.5 kg lime cake contg. 22.4% CaO and 4% organic material was added to 1.4 cubic metres of a waste soln. from ion exchanger regeneration contg. K<sub>2</sub>SO<sub>4</sub> 2.5, Na<sub>2</sub>SO<sub>4</sub> 1.2, and organic materials 1.84% at pH 3.4, such that the pH of the mixt. was 4.5-4.8 during treatment of flue gas contg. 0.1 vol% SO<sub>2</sub> and 0.005% SO<sub>3</sub> at 210 deg. At pH 4.8, 100g. cationic surfactant was added to the mixt. and crude gypsum was removed from the bottom, filtered, and washed to form 98.4% pure gypsum. Lime cake, waste from sugar-mfg. plant, was dispersed in spent H<sub>2</sub>SO<sub>4</sub> soln. from regeneration of cationic exchange resin used for desalting sugar soln. and then a SO<sub>2</sub>-contg. flue gas was blown into the dispersion under acidic conditions to obtain gypsum. (J50068998)

**FISC/ D17 40962 B/22 = US 4240-8**  
Absorbents for oil comprising cellulosic fibres - esp. de-sugar bagasse fibres

FISCHER K O P 23.10.78-US-954001

H03 J01 (H06) (23.12.80) \*EP---2-070 + C10l-01/04

23.10.78 as 954001 (6pp924)

Oil is absorbed by spreading on the oil an absorbent comprising about 97 wt.% oleophilic, hydrophobic sugar-free bagasse, and about 3 wt.% water, capable of taking-up an amt. of oil equalling 15 times its wt.

Pref. the absorbent is in the form of fibres having length 2-3 mm, capable of taking-up an amt. of oil equalling 20-27 times its wt. Alternatively the absorbent is used in granular form of size approx. 100 microns, taking-up up to 16 times its wt. The resulting oil saturated absorbent is useful as a fuel.

**GRAI ★ D17 01900 D/02 ★ US 4241-**  
Liquefaction of high solids starch pastes - at high temps., using infusion of malted cereal grain

GRAIN PROCESSING CORP 30.04.79-US-034333

(23.12.80) C12p-19/22

30.04.79 as 034333 (5pp478)

Starch (I) is liquefied as follows: an infusion of a malted cereal grain (II) is added to (I) paste at above 75 deg.C, and the mixt. is heated above 75 deg.C until the (I) paste is liquefied to viscosity not more than 1500 centipoise.

Using (II) as a source of enzymes allows high solids content starch pastes to be liquefied at high temps. (so that (I) slurries may be cooked and liquefied continuously). In addn., the set-back and retrogradation which normally occur on cooling are reduced to min., and amylose-lipid complex formation is prevented. The process is useful in the brewing industry, and in the prepn. of breakfast cereals, etc.

See Also

D13 US4239922

D22 US4240909



# D18: SKINS; HIDES; LEATHER; TOBACCO

D18

21068 T/13 = J8 0049-195

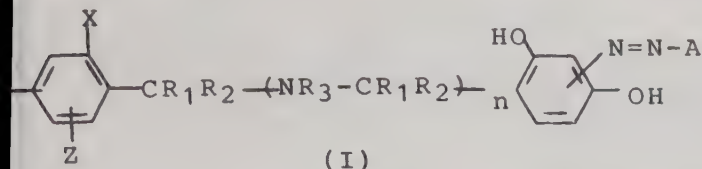
er-sol azo dyes - for dyeing differently tanned leathers

CHIM UGINE KUHLMANN 05.10.70-FR-035825

(10.12.80) \*BE-772-780 D06p-01/39

077576 (9pp)

for leathers, deep shades fast to light, moisture solvents, and grinding, have the formula (I) together with their proso, metalliferous and salified derivs. (wherein both X identical and are H or OH; R1 and R2 are the same or different and are H, OH, alkyl or aryl, R3 is H, alkyl or aryl, Z is H or OH, n is 0 or 1; A is the residue of a diazotisable aromatic amine A-NH2 contg. at least one sulphonic or carboxylic acid group).



D18

64018 B/35 = J8 0049-197

dyeing method - using water-insoluble azo cpd. contg. OH or carboxylic gps. obtd. by coupling reaction, without

AMOTO KAGAKU GOS KK 29.12.77-JP-160067

(10.12.80) \*J54092-601 D06p-03/32

s 160067 (9pp)

comprises using coloured water insoluble or hardly soluble azo compound contg. OH and/or carboxylic gps. which is obtd. by coupling reaction without drying. Leather can be dyed homogeneously and

for example, anthranilic acid is dissolved in hydrochloric acid solution, to the soln. is added sodium nitrite soln. under cooling to allow azo reaction to take place. To the resultant is added alkali beta naphthol under cooling to allow coupling reaction to take place. The resultant is washed with water, and mixed with dispersing aid, followed by homogenising, whereby red aqueous dispersion of solid content of 10% is obtd.(J54092601).

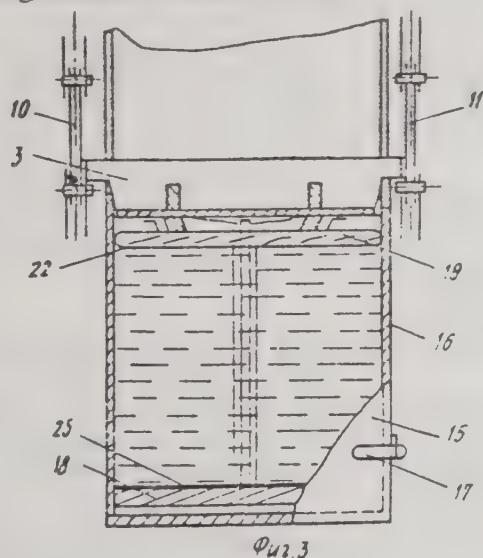
★ D18 01335 D/02 ★SU-733-629  
leaves single stage pressing equipment - has pressing attachment mounted on chain conveyor, with mould containing upper and lower plates to form bale

BD FOOD IND RES 31.08.77-SU-523143

(15.05.80) A24b-01/10

as 523143 (4pp29)

single stage pressing equipment for tobacco leaves, has vertical frame with pressing mould in the bottom, pressing plate and the latter comprises two parallel endless chains which can move backwards and forwards, and which simplifies the operation. During pressing the plate is held by the links of the frame. The press-mould is part of the chamber, and the plate is held by sprung holders. Bul.18/15.5.80.



KDPO = ★

D18

01336 D/02 ★SU-733-630

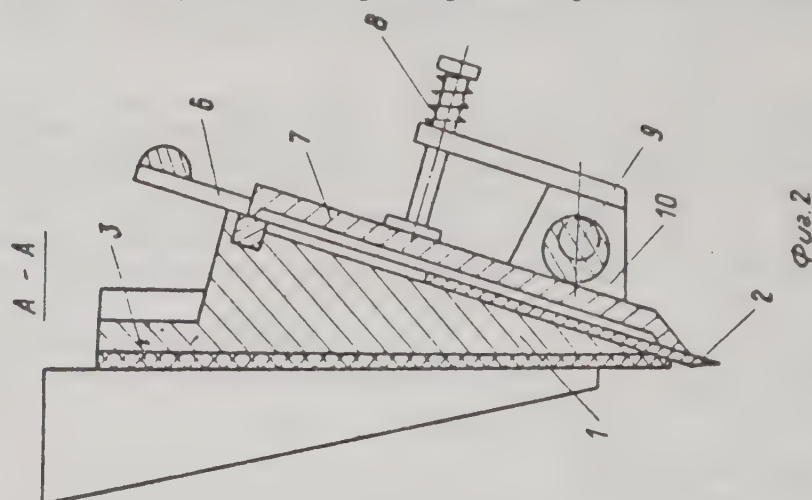
Guillotine type pressed tobacco leaves cutter - has holder into which cutting blade with undulating edge is held by packing plate and handle

KRASD POLY 17.12.76-SU-431618

P15 (15.05.80) A24b-07/02

17.12.76 as 431618 (3pp29)

Cutting attachment for guillotine-type tobacco-cutting machine, has holder with means to fasten a knife-blade into it. Vertical guides are mounted on the knife to orient it during the cutting motion. The cutting edge surface is made wavy and the fixing supports can be adjusted to determine the position of the blade. An electrically-insulated packing is included, plus a pressure plate. Bul.18/15.5.80.



SVYG

D18

73808 B/41 = US 4238-939

Thermal treatment of leather - using thrust roll consisting of rings with common rubber lining (NL 2.10.79)

STATNI VU KOZ GOTTWALD 31.03.78-CS-002065

+ P63 (16.12.80) \*DE2907-782 C14b-01/06 + C14b-17

29.03.79 as 025271 (6pp1376)

Continuous thermal treatment appts for skins or leathers includes a heated rotatable cylinder on a frame, a parallel presser cylinder defining with the heated cylinder a gap for the skins, a parallel drive cylinder to rotate the presser cylinder and located away from the heated cylinder, and a beam pivotally attached to a lever and parallel to the presser cylinder which is actuated by the lever to regulate the gap between the presser and heated cylinders. Pref the movement of the lever is limited by a stop on the frame. The drive cylinder pref has an outer resilient layer.

Skins, leathers can be treated at high temp without frequent replacement of appts parts.

INFL ★

D18

01689 D/02 ★US 4240-447

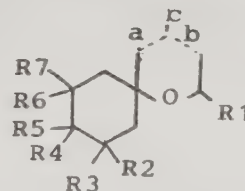
Smoking tobacco compsns - contg. spiro-pyran derivs. to afford aromatic, sweet, mint and cooling notes

INT FLAVORS &amp; FRAGR INC 06.04.79-US-027948 (04.02.75-US-547057)

E13 P15 (23.12.80) A24b-03/12

06.04.79 as 027948 (+ 30.6.76, 4.2.77-US-701249, 765629) (28pp498)

Compsns. consist of smoking tobacco intimately mixed with a spiro-pyran (I), (where R1, R5 and R7 are H; R2, R3, R6 are H or Me; R4 is t-Bu (when R2, R3 and R6 are H), or H; and dotted lines abc are single bonds (SB) or double bond (DB) (at least one SB)).



See Also

D13 GB1582459



# D2: DISINFECTANTS; DETERGENTS

## D21: DENTAL; TOILET PREPARATIONS

**DORI- ★** D21 D/02 ★ AT 7905-695  
Cosmetics prods mfr.  
DORIS-COSMETIC EBER 24.08.79-AT-005695  
(15.12.80) A61k-07/48

**OREA ★** D21 00781 D/02 ★ BE -883-864  
Hair colouring compsn. contg. 2,4-diamino butoxy benzene - as non-mutagenic coupler in oxidn. dyeing  
L'OREAL SA 18.06.79-FR-015553  
E24 (17.12.80) A61k  
17.06.80 as 883864 (19pp597)

Compsn. used in the presence of oxidising agent contains in an appropriate support, at least one oxidn. base and at least one couple these being non-mutagenic or very slightly mutagenic in the Ames test on Salmonella Typhimurium. The compsn. contains 2,4-diamino-butoxybenzene and/or its acid salts, as a coupler.

The cpd. enables good stable shades, is harmless and, unlike 2,4-diamino anisole previously used, is non-mutagenic by the above test.

**THOR/ ★** D21 00802 D/02 ★ BE -884-850  
Plaque detecting and treating dental compsns. - contg. non-acid indicator and plaque inhibitor

THOREL J N 20.08.79-FR-020929  
B05 (16.12.80) A61k

20.08.80 as 884850 (10pp941)

In dental compsns. contg. at least one plaque indicator (I), at least one cpd. (I) is non-acid and the compsns. also contain at least one plaque inhibitor (II), pref. a quat. ammonium or double ternary ammonium cpd., esp. cetyl pyridinium chloride or chlorhexidine. (I) is pref. neutral red, o-toluidine blue or methyl violet.

The compsns. can be used for both detecting and treating plaque, and have a synergic effect. They are non-toxic, stable, water-sol. (allowing rapid removal after use) and have acceptable taste. They are selectively taken up by plaque and rapidly give a colour with good contrast. They have bactericidal and plaque inhibiting activity, indicate pH and reduce surface tension. (I) do not inhibit dextranase (c.f. erythrosine and iodine).

**MARI/ ★** D21 D/02 ★ BR 7903-845  
Assembly for acrylisation - in ordinary total and removable acrylic dentures

MARIA GR 13.06.79-BR-003845

A96 P32 Q77 (16.12.80) A61c-13/08 B29f-01/02 F27b-17/02

**CIBA** D21 82116 A/46 = GB 1582-420  
2-Phenylamino phenyl acetyl amide(s) - having antiinflammatory and analgesic activity, also useful in sun than preparations

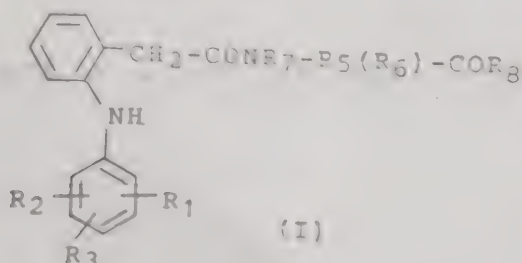
CIBA GEIGY AG 09.09.77-LU-078106 (11.05.77-LU-077316)

B05 E14 (07.01.81) \*BE-866-911 A61k-31/16 C07c-103/32

03.05.78 as 017465 (30pp963)

Phenylacetic acid amide cpds. of formula (I) are new. R1 is hydrogen, lower alkyl, lower alkoxy, halogen of atomic number not more than 35 or trifluoromethyl; R2 is H, lower alkyl, lower alkoxy, halo of atomic no. up to 35 or CF3; R3 is H, lower alkyl, lower alkoxy, or halo of atomic no. up to 35; and R4 is H, lower alkyl, lower alkoxy or halo of atomic no. up to 35. R5 is a radical of aliphatic character contg. the gp. R6. R6 and R7 are each H or are together a divalent aliphatic radical and the -COR8 is an opt. modified carboxyl.

Cpds. (I) have antiinflammatory and analgesic properties, and are useful as antiphlogistic agents. They are also useful as UV absorbers for cosmetic purposes.



**NOTT/ ★** D21 00892 D/02 ★ GB 2050-160  
Protective skin cream compsns. - contg. double Jersey cream milk as fat source

NOTTAGE HC 10.04.79-GB-012657

A96 (07.01.81) A61k-07/40

10.04.79 as 012657 (4pp367)

Protective cosmetic cream compsns. for application to the skin characterised by the fact that the fat content necessary to enable cream to be massaged into the skin is provided by the cream comp of double Jersey cream milk (I).

The compsns. can be used as baby creams, moisturising creams or after-shave. They protect the skin against atmospheric pollutants.

**FUJI- ★** D21 01009 D/02 ★ J5 514  
Skin cosmetic contg. mineral, animal or vegetable tar - which has been distilled at low pressure and/or acylated

FUJINAGA SEIYAKU KK 27.04.79-JP-051421

(10.11.80) A61k-07

27.04.79 as 051421 (4pp5)

Skin cosmetic contains mineral, animal or vegetable tar which has been refined by distn. under reduced pressure and/or acylation. It is used as a controlling agent for skin disorders.

Natural tars are distilled at 50-210 deg.C under reduced pressure 5-10 mmHg and the distillate collected. The distillate having high b.pt. contains most of the cancer-inducing substances and mutagens, and the fraction with a lower b.pt. contains most of the colouring and odorous substances and little effective substance.

Combining natural tars in skin cosmetics prevents skin disorders caused from the use of cosmetics, can be prevented and distn. of natural tars under reduced pressure and/or acylating them removes the cancer-inducing substances, mutagens colour and smell.

**SIYA ★** D21 01010 D/02 ★ J5 514  
3-Hydroxy:chromone contg. whitening cosmetic - inhibiting tyrosinase, is non-toxic, antioxidant and absorbs UV light

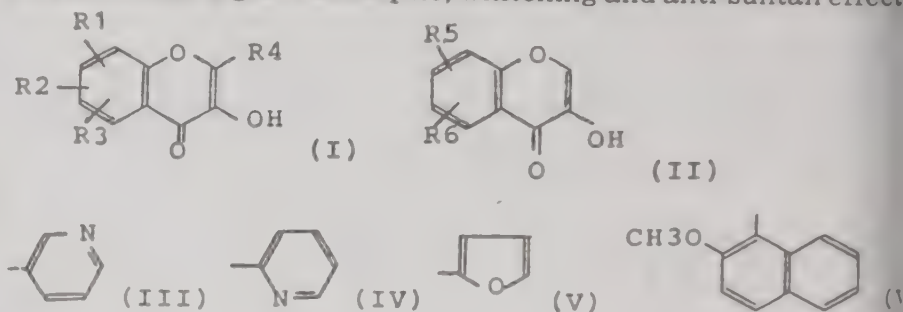
SANSEI SEIYAKU KK 25.04.79-JP-051609

E13 (10.11.80) A61k-07

25.04.79 as 051609 (5pp5)

Whitening cosmetic contains 3-hydroxychromone cpd. represented by formula (I) or (II) as the effective ingredient. R1, R2, R3 are OH, CH3, CH3O, NHCOCH3 or Br. R4 is CH3, CH3O, the gp. (I), (IV), (V), (VI), styryl, pyrrolyl, p-benzoquinonyl, naphthyl or anthryl gp. R5 is H, CH3 or CH3O. R6 is NH2 or CH3O.

(I) and (II) are nontoxic to human beings and inhibit tyrosinase. They have good antioxidising activity and absorb UV. Combined with a cosmetic base the cosmetic which is preservative and stable to light and pH, shows a good antiseptic, whitening and anti-suntan effect.



**POKK ★** D21 01011 D/02 ★ J5 514  
Unsaturated cosmetic cpd. is stable - and does not stimulate the skin

POLA KASEI KOGYO KK 26.04.79-JP-051776

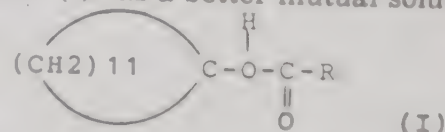
E15 (10.11.80) A61k-07

26.04.79 as 051776 (6pp5)

Cosmetic contains cpd. (I) where R is a more than 5C opt. straight or branched alkyl.

Examples of (I) include cyclododecyl-hexanate, cyclododecyl-ethylhexanate, cyclododecylneodecanate, cyclododecyl-isolaureate, etc. (I) is easily prepd. by esterifying cyclododecanol with a branched saturated fatty acid.

(I) is more stable than similar unsaturated cpds. and is non-irritating to skin even though it has below 25 C, and can be used as the oily base for skin cosmetics. (I) has a better mutual solubility with other oil

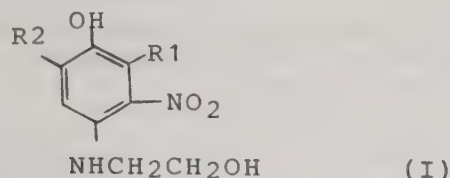


components of cosmetics (e.g. bees wax, whale wax, tallow, etc.) compared with squalane.



**D21** 01146 D/02 ★ J8 0048-091  
 tal alloy for filling teeth in dental surgery - by adding tin to  
 adding zinc to lower m. pt. and kneading to effect  
 ation  
 HIDA R 20.06.73-JP-069452  
 (04.12.80) A61k-06/04 C22c-01/02 C22c-28  
 as 069452 (4pp26)  
 of a raw material of metal to be filled in a tooth in the dental  
 is claimed. 1-13.5 wt.% of tin is added to gallium and 24.5  
 5% wt.% of zinc is also added to lower the m.pt. and kneaded  
 porarily lower the m.pt. of gallium to cause it to be  
 sed. (J50017092).

**D21** 75874 Y/43 = J8 0049-088  
 p-(4)-hydroxy-ethylamino phenol and ring alkyl derivs. - used  
 in hair dyeing compsns.  
 REAL SA 21.04.76-LU-074807  
 (10.12.80) \*BE-853-733 A61k-07/13 C09b-53  
 as 045211 (11pp59)  
 ninophenols of formula (I) (where R1 and R2 are each H or 1-  
 l) are new. Cpd. (I) are used as dyes in hair dyeing compsns.  
 ive red dyeings with good light and weather fastness. The  
 e also stable in the presence of ammonia and peroxides and  
 erefore be used with oxidn. dyes.  
 n example, 3-nitro-4-hydroxyethylamino-phenol was prepd.  
 ne corresp. NH2 cpd. by reacting with chloroethylchloro-  
 e (Cl-COOCH2CH2Cl) followed by alkaline hydrolysis of the  
 ate formed. (J52132030).



**D21** 60129 B/33 = US 4239-533  
 um contg. magnetic alloy - with relatively low melting point,  
 s nickel and/or cobalt  
 ACHI METAL KK 06.02.78-JP-012206  
 M26 V02 (X12 X24) (16.12.80) \*DE2820-377 C22c-19  
 as 904321 (3pp926)  
 pt. dental alloy which has magnetic properties contains in  
 0-70 Co; 29-80 Ni, and at least 35 Pd. It has a magnetic flux  
 of at least 2000 G and a m.pt. of not greater than 1350 deg.C.  
 the alloy also contains up to 15 Cr, up to 30 Fe, up to 20 Cu, up  
 up to 3 Sn, up to 20 Pt, up to 23 Au and up to 3 Ag. The alloy  
 melted and cast with relative ease.

**D21** 01574 D/02 ★ US 4239-781  
 application of polyalkylene glycol - for treating dandruff,  
 's foot, eczema and flaking skin  
 WARD R 03.05.79-US-035604 (09.02.78-US-876203)  
 B04 (A25) (16.12.80) A61k-31/08  
 as 035604 (2pp916)  
 ilments are treated by applying topically a polyalkylene -  
 (I), esp polypropylene glycol and polyethylene glycol as active  
 ients. (I) may be formulated with vegetable or mineral oils,  
 ide, talc or diatomaceous earth. Dandruff and flaking skin is  
 l by topical application twice daily of polyethylene glycol,  
 t. 400 sufficient to wet the skin. The condition is cured after 2  
 treatments. Eczema is treated by applying an ointment  
 ing 50% wt polyethylene glycol, mol. wt 400-15,000, 25% wt  
 ide and 25% wt mineral oil.  
 ave no side effects, they are colourless and odourless and

**D21** 67034 A/38 = US 4240-450  
 compsn. for treating hair, nails or skin - partic. for shampoo  
 ontg. anionic and cationic polymers  
 REAL SA 15.03.77-LU-076955  
 + P24 (23.12.80) \*BE-864-863 A61k-07/08 + A45d-07  
 as 886554 (52pp924)  
 n. suitable for the treatment of keratin materials, comprises  
 nic polymer(s) contg. at least one unit of sulphonic, carboxylic  
 osphoric acid and having a mol. wt. of 500-5 million, (ii)  
 nic polymer(s) in a solvent medium, and (iii) anionic, cationic,  
 ic or amphoteric surfactant(s) or their mixts. in an amt. of  
 t.% (based on total compsn. wt.)  
 anionic and cationic polymers are present in an amt. of 0.01-  
 elative to the total compsn. wt. Pref. the compsn. contains an  
 vent medium. Pref. the compsn. further contains a mono- or  
 lcohol, glycoester, fatty acid ester, methylene chloride or  
 nixt. as solvent.  
 compsn. is rinsed out to leave the anionic polymer on hair,  
 -nails etc.

**BREW- ★** **D21** 01710 D/02 ★ US 4240-760  
 Foam scrubbing device - consisting of glycerine soap bar between  
 two foam layers of different porosities  
 BREWSTER LAB INC 21.07.78-US-927251  
 A96 P28 (23.12.80) A47k-07/02  
 21.07.78 as 927251 (5pp478)

Foam scrubbing device consists of: (a) a dense foam layer (I) of a  
 foam material possessing a porosity and thickness for allowing  
 foam layer (II) which has the same shape as (I), a greater porosity  
 but a greater thinness than (I) so that the same amt. of wetted soap  
 as passes (I) is allowed through; and (c) a glycerine soap bar (III)  
 between (I) and (II) which are heat sealed about the edges to  
 encapsulate (III). The different porosities of (I) and (II) provide  
 different abrasive characteristics for cleaning and scrubbing.

The device has surfaces of differing coarseness, and is useful e.g.  
 for removing dirt, whiteheads, blackheads and dead skin cells, and  
 also for cleansing oily skin and helping the control of acne pimples.  
 In addn., the device foams easily, washes freely, and lasts 14-21 days  
 with 3 cleansing applications per day.

**RITP** **D21** 60771 C/35 = US 4240-832  
 Compsn. for filling teeth - contains salicylic ester:aldehyde  
 condensate and excess calcium hydroxide  
 SYBRON CORP 12.02.79-US-011389  
 A96 E33 (23.12.80) \*DE3005-134 + C09k-03  
 12.02.79 as 011389 (5pp945)

Dental pulp capping and cavity lining compsn. comprises Ca(OH)2  
 and a condensate of a salicylic acid ester and acetaldehyde or  
 formaldehyde. Aldehyde to salicylate mol. ratio is 0.5-1.0:1. The  
 Ca(OH)2 is in stoichiometric excess over the condensate, and reacts  
 with it to form a hard, rigid mass contg. free Ca(OH)2 dispersed in it.  
 The formaldehyde may be in oligomeric form, e.g. as  
 paraformaldehyde, metaformaldehyde or trioxane.

The compsn. can be placed over moderately inflamed dental pulp  
 to reduce inflammation and induce dentinal bridge formation. It  
 cures quickly and has crushing strength sufficient to resist amalgam  
 condensn. pressure. It is resistant to etching acids and compatible  
 with composite restorative materials.

**COLG ★** **D21** 01838 D/02 ★ US 4241-049  
 Stabilisation of antibacterial dentifrice - contg. di-chlorophenyl-  
 bi:guanido-hexane, by adding alkaline earth salt  
 COLGATE PALMOLIVE CO 10.10.75-US-621460 (22.03.71-US-  
 126972)  
 A96 B05 (B06) (23.12.80) A61k-07/22  
 10.10.75 as 621460 (+ 26.1.73-US-326811) (4pp367)

Process is claimed for preventing liq-solid phase sepn. in a  
 dentifrice compsn. in the form of a cream or gel contg. 0.01-5 wt.%  
 flavouring oil and 0.015-2 wt.% phosphate ion. The process comprises  
 adding (a) 0.01-5 wt.% 1,6-di(p-chlorophenyl-biguanido)hexane (I) as  
 antibacterial agent and (b) 0.25-10 wt.% of a water- soluble alkaline  
 earth metal salt (II) of a strong acid to prevent phase sepn.

(II) is pref. a Mg or Ca halide, nitrate or sulphate (esp. CaCl2 or  
 MgCl2) and is added in an amt. of 0.25-0.50 wt.%. The dentifrice  
 compsn. pref. comprises a gelling agent (esp. a cellulose deriv), a  
 water-insoluble polishing agent (esp. a phosphate), water,  
 humectant, flavouring oil and a surfactant, esp. Na N-lauroyl-  
 sarcosinate (III).

**CHAL/ ★** **D21** 01941 D/02 ★ WP 8002-640  
 Electrical hair removal treatment - by first applying wetting soln.  
 with ionic properties to provide conductive track to hair papilla  
 CHALMERSE 29.05.79-US-042799  
 S05 P31 (11.12.80) A61b-17/41

28.05.80 as U00623 (15pp513) (E) US2888927 US3999552 US4174714 N(AU  
 BR DK JP NO) E(AT CH DE FR GB NL SE)

A wetting soln. with ionic properties is first applied to hair and to the  
 surrounding skin. e soln. is allowed to set the hair, both external and  
 within the follicle, so that a continuous thin film of the soln. is formed  
 along the hair. A regulated electric voltage is then applied to the  
 hair so that a current flows down the ion path to coagulate the hair  
 papilla, after which the hair is removed..

Process gives certain depilation and is less painful and potentially  
 harmful than prior art processes such as electrolysis or dry  
 application of electrified tweezers.

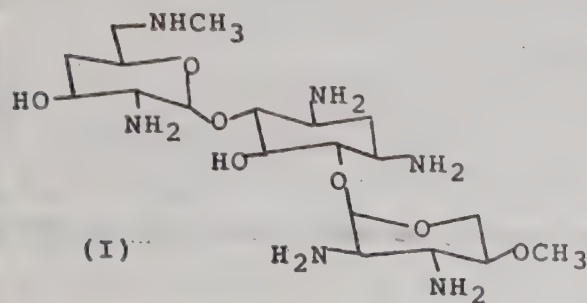
**UYCH- ★** **D21** 01942 D/02 ★ WP 8002-642  
 Reducing cariogenic activity of sugar, foods etc. - by incorporating a  
 soluble source of calcium or phosphate ions  
 UNIV CHICAGO 11.04.80-US-139199 (07.06.79-US-046314)  
 B06 (11.12.80) A61k-07/16 A61k-33/06  
 04.06.80 as U00691 (37pp1251) (E) AU-256211 AU-259269 AU-261082 AU-  
 290459 AU-445260 GB1009957 GB1384375 GB1408922 US2967131  
 US3194682 US3337412 US3375168 US3462366 US3467529 US3469989  
 US3471613 US4022887 US4048300 US4080440 US4083955 US4097588  
 US4108980 US4127645 US4177258 US4183915 US4193988 N(AU CH DE  
 GB NL SE) E(FR)  
 The cariogenicity of a soln. of a cariogenic substance (A), esp







e.g. *Streptomyces hofuensis* ATCC 21970. (I) exhibits a sum of antibacterial activity and is also effective against *Staphylococcus aureus* resistant to XK-88-5.



D22

D/02 ★ IL --52-536

generator, e.g. for vaporising pesticides - includes container cooled by heat source cooling means, temp. sensing means and a heat source

MIN AGRICULT 15.07.77-IL-052536

5 P14 P34 (30.11.80) A01m-13 A611-09/03

D22

01194 D/02 ★ J8 0048-874

for use in swimming pools, cosmetics inks etc. - contains zinc and/or manganese salts of ethylene (and/or ethylene) bis di:thiocarbamic acid

ORG CHEM IND KK 07.07.71-JP-049593

12 (D22) (09.12.80) C02f-01/50

049593 (11pp83)

material agent (I) comprises Zn-, Mn- or Zn/Mn mixed salt of ethylene and/or propylene-bis-dithiocarbamic acid. The agent is used to man and other animals. The carbamates may be used with ammonia.

kills mould and bacteria in water for cooling, swimming pool, etc., ink, etc. (J48018426).

D22

33844 T/21 = J8 0049-043

monoacetophenone - for use as a microbicide in aq suspensions

FFER CHEMICAL CO 16.11.70-US-090065

03 E14 (10.12.80) \*BE-775-383 + A01n-35/02

090692 (3pp)

monoacetophenone is prepd. by reacting acetophenone with the presence of ether or dioxane solvent at room temp.

additive is used to destroy microorganisms producing sludge in paper pulp, and is extremely effective in preventing sludge in all types of liquid, suspensions. (J47010499)

D22

61146 A/34 = J8 0049-098

stable compsn. for slow release of perfume, insecticide etc. - containing adamantane and endo:tri:methylene-norbornane

MITSU IND KK 25.12.76-JP-155651

E15 + P34 (10.12.80) \*J53081-631 + A01n-25/18 A611-09/\*

03 155651 (5pp4)

sting compsn. is composed of adamantane 1-25 wt.% and methylene-norbornane 99-75 wt.%. Compsn. can provide excellent in mechanical strength and from it all agents can be volatilised uniformly. Thus it can be applied as an excellent carrier for perfume, insecticide, deodorant, etc.

Adamantane is a nontoxic odourless sublimating hydrocarbon and mouldings have excellent form-holding properties and mechanical strength. Further its mouldings can hold relatively large amt. of liq. perfume, etc. in the voids between crystals, but its use is limited by powder-coating problems. Adamantane is mixed with endotrimethylene-norbornane which is a non-toxic odourless sublimating hydrocarbon but has excellent form-holding properties. (J53081631).

D22

61147 A/34 = J8 0049-099

stable compsn. used as carrier for perfume or insecticide - containing synergistic mixt. of adamantane and cyclododecane

MITSU IND KK 25.12.76-JP-155653

E15 + P34 (10.12.80) \*J53081-633 + A01n-25/18 A611-09/\*

03 155653 (4pp5)

sublimable compsn. is composed of adamantane and cyclododecane. Compsn. is non-toxic and odourless and can be used

Adamantane mouldings hold relatively large amt. of liq. perfume, for long time, but its single mouldings suffer from powdering phenomenon. Cyclododecane is also a non-toxic sublimable hydrocarbon but it can hardly hold perfume, etc. Together they form a synergistic mixt. To obtain the mouldings, adamantane is used in amt. 10-90 w/w% and to obtain the moulding showing long time, adamantane is used in amt. 50-95 w/w%.

The compsn. provides mouldings of good mechanical strength and holds large amt. of perfume, etc. for long time. Thus it can be used as the carrier for perfume, insecticide, deodorant etc. (J53081633).

CIBA ★

D22

D/02 ★ PT --71-433

4-Oxa 6-aza 6-phenyl spiro (2.4) heptano-5,7 diones prepn. - for use in microbicidal compsns.

CIBA GEIGY AG 03.06.80-CH-004285 (27.06.79-CH-005995)

B03 (12.12.80) C07d

PROC

D22

88809 C/50 = US 4239-043

Water absorbing foamed material for tampons etc. - comprises hydrophilic foam e.g. polyester, coated with absorbent cover material

PROCTER & GAMBLE CO 29.11.78-US-964842

A96 + P32 (16.12.80) \*J55108-358 A61f-13/20

29.11.78 as 964842 (9pp1376)

Absorbency of hydrophilic foam is increased by having cellulose fibres of a length of at least 1mm a dia of 15 to 45 microns on the surface. The wt of fibres is 5 to 35% of that of the foam. The foam is polyester or polyurethane. Pref the foam is in blocks a thickness of 1/16 to 1

The foam and cellulose fibres are pref encased in a fluid permeable sheet which can be used as a tampon.

KULZ

D22

72816 A/41 = US 4239-113

Material for prepn. of bone cement - contg. acrylate copolymers with glass particles and fibres to give good mechanical properties

KULZER GMBH 02.06.77-DE-724814

A96 L02 P32 + P31 Q34 (A14) (16.12.80) \*BE-867-756 B65d-69

01.06.78 as 911425 (4pp937)

An uncured bone cement compsn comprises (1) 15-75wt% of a mixt of inorganic material (111) and (11) a mixt of methylmethacrylate acid methyl acrylate copolymers. (111) is (a) 90-99wt% powdered bioactive glass ceramic of between 10-200 micrometre particle size and 20-60 wt% SiO<sub>2</sub>, 5-40 wt% P<sub>2</sub>O<sub>5</sub>, 2.7-20 wt% Na<sub>2</sub>O, 0.4-20 wt% K<sub>2</sub>O, 2.0-30 wt% MgO, 5-40wt% CaO, and (b) 1-10wt% vitreous mineral fibre pref glass, of 2-5mm

Pref, the compsn also contains liquid methylmethacrylate monomer and a peroxy catalyst The compsn also contains zirconium dioxide as an X ray contrast means and a small amt of Gentamycin antibiotic.

The cement is pliable and mouldable when applied to the bone which when cured has good mechanical properties together with characteristics favourable to the development of bone structure.

HOLM/ ★

D22

01435 D/02 ★ US 4239-492

Prepn. of umbilical cord for implantation into human body - includes roughening surface to improve host tissue adhesion

HOLMAN D G 14.06.79-US-048381 (26.01.78-US-872606)

(16.12.80) C14c-01

14.06.79 as 048381 (3pp955)

The outer surface of the cord is roughened, with a series of abrasions each of which extends through the outer membrane, to give a surface having a number of small hair-like projections. The cord is flushed, mounted on a mandrel in a desired configuration, and immersed in a soln. contg. more than 70% ethanol. It is then treated with an aq. soln. of dialdehyde starch and/or glutaraldehyde, contg. at least 1% aldehyde, until the configuration is fixed.

The prod. is useful for vascular replacement or arterial/venous fistula, esp. in haemodialysis patients. Umbilical cords are not usually rejected. Roughening the surface improves adhesion to surrounding tissues, reducing the chances of perigraft aneurism following puncture e.g. for insertion of a cannula.

FARH

D22

01804 C/02 = US 4239-525

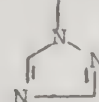
3-(1,2,4-Triazolyl)-cinnamic and crotonic acid derivs. - used as pesticides and fungicides for plant protection and plant growth regulators esp. for cereals

HOECHST AG 19.06.78-DE-826760

C02 E13 F09 (16.12.80) \*DE2826-760 A01n-43/82 C07d-249/08

18.06.79 as 049437 (12pp963)

1,2,4-Triazole derivs. of formula (I) are new. R1 is methyl or phenyl opt. subst. by halogen, 1-4C alkyl, or 1-4C alkoxy; and R2 is R3O where R3 is up to 12C alkyl, opt. subst. additionally by halogen, 1-4C alkoxy or up to 8C alkoxycarbonyl; or is up to 3C alkynyl; or is up to 6C cycloalkyl and opt. subst. additionally by 1-4C alkyl; or is phenyl opt. subst. by halogen or trifluoromethyl, or R2 is -NR4R5 where R4 is H, or 1-4C alkyl opt. subst. by up to 8C alkoxycarbonyl; and R5 is 1-4C alkyl or phenyl opt. subst. by halogen, CF<sub>3</sub>, 1-4C alkyl, 1-4C alkoxy, phenoxy or halophenoxy.



(I) exhibit fungicidal activity and may be used to protect plants



and in technical field e.g. for protecting wood, etc; they also have plant regulating activity.

**DESP ★ D22 01463 D/02 ★ US 4239-541**  
Mildew sealing coating compsn. for use before painting, provides paintable surface without need to remove mildew

DESOTO INC 29.06.78-US-920342

E33 G02 (16.12.80) C09d-05/14

29.06.78 as 920342 (3pp955)

Compsn. is an aq. suspension contg. an effective amt. of an alkali-stable mildewicide, a non-volatile relatively insoluble alkaline earth metal cpd., esp. barium oxide or hydroxide, present in wt. percentage equiv. to 0.006-0.03 times its equiv. wt., and latex particles which can coalesce to form a film at room temp.

The compsn. is scrubbed into walls, etc. affected with mildew. It dries quickly to a film which can be painted. The mildewicide kills mildew immediately on contact while the alkaline earth cpd. provides prolonged protection against further attack.

**RESE ★ D22 01522 D/02 ★ US 4239-664**  
Antithrombogenic PVP-heparin polymer - with low anticoagulant profile, useful as a plastics coating

RESEARCH CORP 31.10.78-US-956049 (18.03.77-US-778974)

A96 B04 (16.12.80) C08l-05/10

31.10.78 as 956049 (10pp985)

An antithrombogenic, chloroform soluble polymer (I) comprising covalently bound poly-N-vinylpyrrolidone (PVP)-heparinis new. The PVP has mol. wt. 10000-360000, and the heparin has a normal mol. wt. 6000-20000. (I) is formed by activators PVP with thionyl chloride to give an imidoyl ion and bonding heparin to the ion.

(I) is useful as a protracted i.v. therapeutic drug on humans and it can maintain a low anticoagulant profile but with long sustaining anticoagulant effect. (I) can also be used to coat plastics e.g. silicone rubber and PVC, and is more suitable than in prior art cases where the heparin was bound to the plastics by chemical modification. The coated plastics can be used in implants, extracorporeal biomedical devices and prothesis for use in direct contact with blood e.g. tubes, valves and dialysis membranes.

(I) has twice the half-life in sheep as does the native heparin and is non-toxic.

**ELEX D22 54396 Y/31 = US 4239-730**  
Autoclave sterilization system - using steam followed by compressed air mixed with steam after reaching desired temp. and pressure

ELECTROLUX AB 26.01.76-SE-000739

P34 (16.12.80) \*DE2702-669 + A611-02/06

31.07.78 as 929734 (6pp1376)

In a sterilising autoclave the supply of steam and compressed air, and discharge and vent conduits are controlled so that only steam is admitted to heat the chamber and the articles to the sterilising temp. Before the sterilisation period commences valves in the vent conduit and the air supply are opened to replace the steam with a steam/air mixt. Pref. a small quantity of H<sub>2</sub>O is sprayed in the chamber during steam replacement.

Pressure increases in packaged articles and temp. increases above the sterilising temp. are avoided.

**AMSA ★ D22 01557 D/02 ★ US 4239-731**  
Fabric goods sterilisation with ethylene oxide - following sub-atmosphere pretreatment cycles with steam

AMERICAN STERILISER CO 21.11.79-US-096489 (11.11.77-US-850846)

E13 P34 (16.12.80) A611-01 A611-03 A611-05

21.11.79 as 096489 Div ex4203943(14pp295)

Goods to be sterilised are placed in a sealed chamber provided with pressure sensors connected to a control circuit. Valves control the admission of conditioning steam to the chamber and an exhaust system. The goods are subject to a number of subatmospheric pressure cycles between 50 to 100mmHg. abs. After this pretreatment the pressure is raised and a chemical, sterilising gas, pref. ethylene oxide is introduced.

The control circuit may provide either a predetermined number of subatmospheric cycles or provide for cycling until the successive times of two pressure cycles are found to be equal. During each pressure cycle the steam inlet and exhaust valves are opened simultaneously for part of a cycle.

The appts sterilises fabric goods or goods with interstitial spaces. Moistening and heating the goods with steam prior to sterilising with gas reduces the gas requirements. The appts adjusts its performance in accordance with the load and sterilises a small load faster than a larger one.

**FARM- D22 84723 B/47 #US 4**  
Antibacterial 6-iso-bornyl-3,4-xilenol prepn. - by cond. camphene with 6-iso-bornyl-3,4 xilenol-benzyl ether (sic) Friedel-Crafts catalyst, hydrogenating and debenzylating

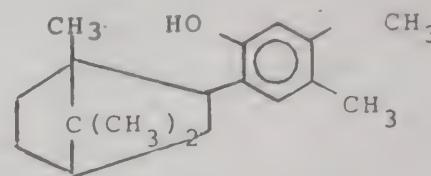
FARMATIS SPA 28.02.78-IT-020684 (27.03.79-US-024208)

E14 (16.12.80) \*J54115-360 C07c-39/15

27.03.79 as 024208 (10pp937)

6-Isobornyl-3,4-xilenol of formula (I) is prepd. by cond. camphene and 3,4-dimethylphenol benzether in an inert anhydrous organic solvent pref. of CS<sub>2</sub>, CCl<sub>4</sub>, CH<sub>2</sub>Cl<sub>2</sub>, ethyl ether, benz. nitrobenzene in the presence of a Friedel-Crafts catalyst pref. SnCl<sub>4</sub>, BF<sub>3</sub>, AlCl<sub>3</sub> or SbCl<sub>5</sub> at a temp. of 0 deg. C. The 6-isobornyl-xilenol benzether obtd. is debenzylated by hydrogenation in the presence of a catalyst chosen from Pb, Pt or their cpds. hydrogenation is carried out in a solvent comprising a methylacetate and acetic acid.

The process is simple and economical producing 6-isobornyl-xilenol (Xybornol) in high yield of practically pure prod.



**GALI/ ★ D22 01660 D/02 ★ US 424**  
Intra/ocular lens coated with medicament - comprising sulphated polysaccharide or ethyl acrylic acid

GALIN M A 31.01.79-US-007890

A96 B04 P32 (23.12.80) A61f-01/16

31.01.79 as 007890 (4pp367)

Intraocular lenses (e.g. implanted to replace a cataractous lens) coated with a medicament comprising a sulphated polysaccharide (I) or ethacrylic acid (II). (I) can be dextran sulphate, chondroitin sulphate, chitosan sulphate, xylan, sulphate, sulphated hyaluronic acid, or esp. heparin with a low molecular wt. (2500-5300). The coating pref. has a thickness of 0.0001-0.01 mm and makes up 0.01-0.1% of the wt. of the lens. The coating can be applied to anterior and opt. the posterior surface of the lens.

**RECT/ ★ D22 01662 D/02 ★ US 424**  
Expression former for corpse - thin resilient plastic plate with spreading wings for better fit

RECTOR C W 21.09.79-US-077679

(23.12.80) A01n-01

21.09.79 as 077679 (7pp1358)

Former for insertion between lips and teeth and gums of a corpse comprises a thin resilient plate with double curvature to fit the dental arch and forming a pair of wings and central connecting section with spurs to engage mouth musculature. A continuous line connects offset upper and lower parts of the central section.

The central section has dividing lines extending towards the respective wings to form two flaps which allow wider spreading of the expression forming wings and greater adaptation to the dental arch. The former is pref. of transparent plastics, e.g. polyethylene, polypropylene or polymethylmethacrylate.

**WFRA- ★ D22 01673 D/02 ★ US 424**  
Orthopaedic cast prepd. from poly-epsilon caprolactone sheet - electron irradiating, heating, forming and cooling

WFR/AQUAPLAST CORP 18.12.78-US-970626 (25.02.79-US-772090)

A96 P32 (A23 A32) (23.12.80) A61f-05/04

18.12.78 as 970626 (6pp558)

An orthopaedic cast comprises poly(epsilon-caprolactone) of formula -(O-(CH<sub>2</sub>)<sub>5</sub>-CO)-x-, where x makes the wt. average mol. greater than 5,000, which is subjected to electron radiation in a range of 0.5-15.0 megarads and having a m.pt. of 50-100 deg. C., with a half-time crystallisation at 36 deg. C of 0.5-10.0 mins.

The orthopedic cast is formed by subjecting a preform sheet of poly(epsilon-caprolactone) to electron radiation to heat the sheet to its softening point, forming the sheet to the desired shape and allowing it to cool below its m.pt.

The cast is clean and simple to apply; is self-indicating when ready to apply and opaque when non-formable; is elastic in the m. state and can be reformed to its pre-application shape by removal and allowing to relax; has moulding characteristics relatively insensitive to the temp. of heating and application; conforms readily to irregular body shapes; and is light, strong and sanitary in use.



**D22** 68978 A/39 = US 4240-416  
absorbent sheet for hygienic and medical uses - e.g. dressing, has skin contacting surface which always feels dry  
KE J H GMBH 20.05.77-DE-722860  
P73 + P32 (23.12.80) \*BE-867-265 A611-15  
907727 (4pp924)

lat structure having a high absorption capacity for and hygiene purposes, comprises at least two layers having moisture absorption characteristics. One of the layers is a cover comprising nonwoven bonding agent-free bonded fibres. Another layer is a storage layer located below the cover and having a higher absorption capacity than the cover

er layer is treated with a wetting agent and has a moisture capacity in accordance with DIN53802, and a moisture less than 6% relative to its dry wt. in accordance with . The treated cover layer is capable of being wetted by the be absorbed and to pass such liquids without interruption age layer so that the cover layer remains dry to the skin. ver layer comprises moisture repellent fibres, the surface are treated with the wetting agent. The wetting agent of a reaction prod. of castor oil and ethylene oxide reacted in ratio of 1:40.

**D22** 01686 D/02 ★US 4240-436  
rectal treatment disposable cold pack - comprising liq. in plastic container preformed to fit treatment region  
LETON R R 31.08.78-US-938336  
32 (23.12.80) A61f-07  
s 938336 (5pp1358)

preformed for treatment of the vaginal-rectal region es a polyethylene container holding water-alcohol mixt. and or use without further manipulation. An elongate base is o conform with the curve of the region and is narrower at the d, with the edges concavely curved.  
extend upwardly from the base and are angled towards one and a contact surface connecting the side top edges has r concavely curved side edges. The surface mid-part has an ty protruding elongate section for partial insertion into and rectal openings. There may be a tubular protrusion surface for insertion into the rectum.

★ **D22** 01717 D/02 ★US 4240-794  
ing human umbilical cord to predetermined configuration - ing cord, mounting it, immersing it in ethanol, then treating ehyde  
MAN D G 25.06.79-US-052068 (26.01.78-US-872605)  
P34 (23.12.80) A611-17 C14c-03/08  
as 052068 (3pp478)

of conforming a human umbilical cord (I) to a rmined configuration for implanting in a human body is as (a) (I) is flushed then mounted upon a mandrel of the desired eation; (b) the mounted (I) and mandrel are immersed in aq. t least 70% EtOH until (I) is dehydrated and shrunk onto the ; and (c) the dehydrated and mounted (I) is immersed in an of dialdehyde starch (II) or glutaraldehyde (III) (both solns. ore than 1% of aldehyde) so that the configuration is fixed. ssed (I) have a performance (as cannula for blood vessels) ntly superior to that of synthetic resinous materials, and e useful as vascular replacements and/or arterial venous etc.

**D22** 44395 A/25 = US 4240-909  
ked boron-contg. resin - used to reduce aldehyde(s), ), amine(s) and olefin(s) and selectively remove metals for media

M & HAAS CO 10.12.76-US-749560 (13.03.78-US-886221)  
04 M25 (D17 S03) (23.12.80) \*DE2755-170 B01d-15 C02f-01/70  
as 886221 (6pp918)  
hyl Hg, Sb, As, Bi, Ag, Au, Pd, Pt, Rd, In ions are removed and non-aq. media by first contacting with nonionic borane g resin (I). Resin (I) comprises a solid, cross-linked er contg. many amine or phosphine-borane adduct al gps. After contacting with (I) the ions in soln. are reduced or transfer and the reduced metals pptd. on, and/or into the er resin.

he adduct functional gp. has formula -Z(R1)(R2)-BH3, where R2 are H, 1-8C opt. subst. alkyl, 6-12C opt. subst. aryl or 7- subst. aralkyl; and Z is N or P.  
e highly selective reducing agents and can be used in the f novel, metal catalysts for use in hydrogenation reactions.

**ALKU ★** **D22** 01774 D/02 ★US 4240-926  
Sterilisation type and degree indicator - contg. thio:barbituric acid, and parabanic acid or a di:methyl oxalate-urea mixt.  
AKZONA INC 26.02.79-US-015546  
E13 (23.12.80) C01k-11/16 C01n-21/06 C01n-31/22 C09d-11/10 C09k-03

26.02.79 as 015546 (4pp478)

Compsn. capable of recording, and differentiating between, steam and dry heat sterilisations consists of: (a) thiobarbituric acid (I); and (b) parabanic acid (II), or a mixt. of dimethyl oxalate (III) and urea (IV). Compsn. mol. ratio (I):(II) is 2:1; and mol. ratio (I):(III):(IV) is 2:1:1.

Compsn. does not degrade under ambient sterilisation conditions, is relatively non-toxic, and avoids the formation of caustic by-prods. In addn. the compsn. (initially cream colour) turns wine red with steam sterilisation, or golden yellow with heat sterilisation (both at 100-130 deg.C). Compsn. is pref. an ink which also contains 15-30% by wt. of an H2O-insol. polymeric binder (e.g. 'Resinox RJ-101' (RTM)), and 30-60% by wt. of a volatile organic solvent (THF, Me2CO, or a low b.pt. alcohol, etc.).

**ALKU ★** **D22** 01779 D/02 ★US 4240-937  
Highly absorbent cellulose fibre for tampon mfr. - prep. by spinning viscose soln. contg. methacrylic acid-acrylic acid copolymer into acid bath stretching, converting to salt and stretching

AKZONA INC 03.01.78-US-866797 (11.08.75-US-603483)  
A96 F01 (A14) (23.12.80) C081-01/02

03.01.78 as 866797 C.i.p.4066584 (6pp960)

A highly absorbent cellulose fibre has incorporated into it an alkali metal or ammonium salt of an azeotropic copolymer of acrylic and methacrylic acid in wt. ratio 10-90:90-10. Pref. the fibre is regenerated from a viscose soln. and the copolymer is incorporated into the soln. as 2-30 wt.%, based on the wt. of cellulose. Prepn. of the fibre is also claimed.

Related patent 40.66584 claimed fibres contg. 2-40 wt.% of the copolymer salt in physical admixture.

The salt gives the fibre improved fluid absorption and renders it cardable. The fibre is esp. used to mfr. tampons.

**MITR** **D22** 79296 B/44 = US 4241-007  
Water-absorbent fabric product - is a compressed cellulose fibre nonwoven which can reassert its shape on absorbing water  
MITSUBISHI RAYON KK 13.04.78-JP-043579  
F04 P34 (23.12.80) \*DE2911-076 + D21j-03

15.03.79 as 020839 (4pp965)

Prodn. of a water-absorbent solid cloth-like article comprises putting a binderless cellulosic nonwoven fabric into a mould. The fabric is then moulded and compressed at 1100-1500 (1200-1300) kg/cm square to give it water-absorption recovery properties.

On addn. of water the fabric returns to its original form prior to the moulding. Hot or cold water may be used. The prod. is esp. for use in vending machines. It may be used as blotting paper, duster or towelling.

**AMSA** **D22** 82930 C/47 = US 4241-010  
Gas sterilisation for biocidal treatment of goods - using chamber evacuated to low pressure and partially pressurised again to sterilising temp. by steam

AMER STERILIZER 06.02.79-US-009818  
P34 (23.12.80) \*EP-16-887 A611-02/20

06.02.79 as 009818 (8pp1358)

Goods are gas sterilised, e.g. with ethylene oxide, by heating and moistening in a chamber, closing and evacuating the chamber, injecting steam to raise pressure to a still subatmospheric level corresponding to sterilisation temp. and without flow rate control, and holding the chamber for a set time with evacuating and injection interrupted.

Evacuation and injection of steam are repeated optionally a number of times until the desired temp. and moisture conditions have been achieved, then biocidal gas is injected to raise the chamber to superatmospheric pressure and is held in the chamber for full sterilisation time. The chamber wall is pref. held at sterilisation temp. while the biocidal gas is in the chamber.

**CERT- ★** **D22** 01823 D/02 ★US 4241-020  
Formaldehyde decontamination of space - then neutralising by recirculating air through gas generators with heaters

CERTEK INC 16.06.78-US-916199  
S05 T06 P34 (23.12.80) A611-02/20 G05d-07 G05d-16

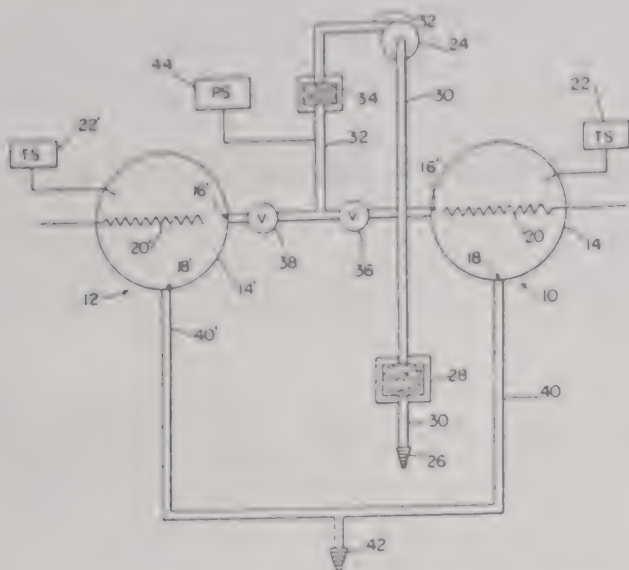
16.06.78 as 916199 (11pp295)

A space is decontaminated by recirculating air through a gas generating appts. The appts. includes a cannister which generates formaldehyde gas when heated. A similar cannister can generate a gas which neutralises formaldehyde. A control circuit activates sequentially the heaters of the two cannisters and also the valves in the recirculated air supply to first fill the space with formaldehyde gas and then to neutralise it. The control circuit has a pause phase



after the space has been filled with formaldehyde gas to allow the gas to saturate the space before the neutralising gas is introduced.

The appts. is used to decontaminate a hospital room, mfg. area or animal cage. The control circuit includes an interlock which resets the appts. in the event of a temporary electricity supply failure or the obstruction of the recirculating air supply.



ROHM D22 76318 T/48 = US 4241-214

Metal complexes of 3-isothiazolones - with biocidal activity

ROHM & HAAS CO 12.05.71-US-142775 (12.07.78-US-923845)

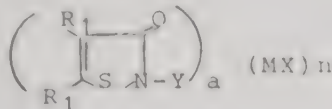
B03 C01 E12 + P34 (23.12.80) \*NL7205-866 C07f-01/08 C07f-03 C07f-15

12.07.78 as 923845 Div.ex. 4150026 (12pp982)

Metal salt complexes of formula (I) are new. In (I), Y is 1-18C alkyl subst. by OH, halo, CN, (di)alkylamino, arylamino, carb(alk)oxy, alkoxyalkyl, aryloxy, alkylthio, arylthio, haloalkoxy, carbamoxo, isothiazolonyl or cycloalkylamino, opt. subst. up to 10C aryl, opt. halo-subst. alkenyl, 2-18C alkynyl, opt. subst. 3-12C cycloalkyl or opt. subst. up to 10C aralkyl.

R is H, halogen or 1-4C alkyl; R1 is H, halogen or 1-4C alkyl, or R and R1 form a benzene ring opt. subst. by at least one halogen atom, NO2 gp., 1-4C alkyl gp., CN gp. or 1-4C alkoxy gp.; m is Ba, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Ni, Ag, Na, Sr, Sn or Zn cation; X is Cl, Br, I, SO4, NO3, acetate, perchlorate bisulphate, bicarbonate, oxalate, maleate, para-toluenesulphonate, carbonate or phosphate anion; a is 1 or 2; and n is the number of X to satisfy valency of m.

(I) have biocidal properties including bactericidal, fungicidal and algacidal properties.



SCGR D22 68495 B/38 = US 4241-226  
Prepn. of 2-nitro-2-methyl-propanol from 2-nitro propane - with formaldehyde, added as polyoxymethylene, in conc. reaction medium

SOC CHIM GRANDE PAROISSE 15.02.78-FR-004210

A25 E16 (23.12.80) \*EP---4-211 C07c-79/18

15.02.79 as 012440 (3pp982)

Direct prepn. of crystalline 2-nitro-2-methyl-1-propanol (I) of at least 95% purity comprises condensing 2-nitropropane with HCHO in a molar ratio of 0.9-1.1:1.

Process comprises (i) adding less than half the HCHO, in liq. form,

to the 2-nitropropane and adding 1-10 m equivs. per mole of nitropropane of an inorganic basic catalyst, water being present as sole solvent in an amt. of 1.5-10%; (ii) adding with agitation the HCHO in solid form of polyoxymethylene, maintaining the temp. at 40-58 deg.C and pH 7-11; (iii) neutralising the reaction prod. about 55 deg.C with stearic acid up to a pH 4-5; and (iv) cooling, agitating with entrainment, with a current of inert gas, water and volatiles.

(I) is obtd. in high yield and purity and is useful as adhesive in tyres, a bactericide and a source of formaldehyde in a medium.

BOWA/ D22 73500 C/42 = WP 800  
Prosthesis for blood vessel having porous inner wall - enabling passage of erythrocytes and thrombocyte s) blood cells

BOWALDS 06.06.79-SE-004938

A96 P32 P34 + P31 (11.12.80) \*BE-883-646 + A61b-17/11 A61b-04.06.80 as SE0161 (11pp597) (E) SE-205320 DE2017330 US402 N(AU CH DE GB JP NL US)

Prosthesis comprises a tubular element made of an inert material which is (partially) non-resorbable and does not result in adverse tissue reaction. The concentric porous inner wall is fixed to tubular organ and the wall enables the passage of blood cells such as erythrocytes and thrombocytes.

Arrangement enables the formation of an endothelial layer similar to natural blood vessels which has an antithrombotic effect preventing the possible formation of thrombs and blockage

GROF/ ★ D22 01944 D/02 ★ WP 800  
Pasteurising respiratory therapeutic equipment - in saline solution at 77 deg. C for 30 minutes

GROFF R F 08.06.79-US-047529

P34 (11.12.80) A01n-59/08 A61k-33/14 A61l-02/04

06.06.80 as U00705 (13pp295) (E) US1554027 US3365267 US341 US3801278 US4141956 US4165359 US4178499 N(DE GB JP) E(FR)

A pasteurisation apparatus comprises an open-topped aluminum beaker filled with a saline solution and placed on a heater. Temp. is raised to at least 77 deg. C and respiratory therapeutic equipment is immersed in the solution for 30 mins. Pref. the solution meets Public Health Service standards for drinking. The apparatus is suitable for home use where a beaker of 500 ml. capacity is employed. The cost of non-iodised sodium chloride is less than that of glutaraldehyde used previously.

FOLE/ ★ D22 02004 D/02 ★ WP 800  
Contact lens polymer contg. chemically bonded asepticising agent, e.g. prep. by carbon to carbon double bond polymerisation

FOLEY W M 20.06.79-US-050442

A96 (A14) (24.12.80) C08f-20/10

10.06.80 as U00698 (70pp200) (E) US3872128 US3927206 US4006147 N(JP NO) E(AT CH DE FR GB LU NL SE)

Contact lenses comprise (a) a lens polymer and (b) an asepticising agent, (I), chemically bonded to the lens polymer so that (I) will leach out of the lens polymer.

Contact lenses in which the polymer is a hydrogel are specifically claimed. Non-vinyl lens polymers can be used, e.g. silicone cellulose acetate-butyrate lenses. Bonded (I) retain physiological activity but are non-irritating to the eye-tissue.

Suitable (I) include trichloro-tert. butanol, hexachloropropylbenzylkoniun cpds., sulpha derivs. and subst. phenols.

See Also

D16 US4241182

## D23: OILS; FATS; WAXES

ALBR ★ D23 00919 D/02 ★ GB 2050-365  
1,6-Di-methyl-3-isobutenyl-4-formyl-cyclohexene isomer mixts. - contg. mostly 3,4-trans isomers, useful as perfume components

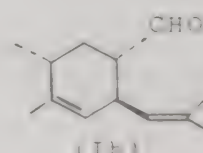
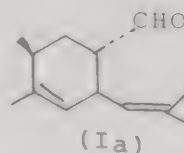
BUSH BOAKE ALLEN LT 06.05.80-GB-014969 (04.05.79-GB-015621)

E15 (07.01.81) C07c-175

06.05.80 as 014969 (6pp367)

New compsns. comprise mixts of the 4 stereoisomers of 1, 6-dimethyl-3-isobutenyl-4-formyl-cyclohexene(I), in which the 3,4-trans isomers of formulae (Ia) and (Ib) predominate:

The compsns. have an attractive herbal spicy aroma (unlike the mild woody aroma of known isomer mixts) and are useful as components of perfumes.





D23

13411 X/08 = J8 0048-778

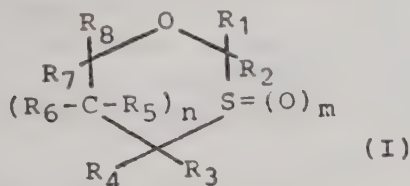
ganoleptic oxathi(ol)anes - useful in foodstuff, feedstuff, pharmaceutical compns. or as in perfume

ICH SA 16.01.75-CH-000520 (02.08.74-CH-010619)

E13 + P15 (D13) (08.12.80) \*DE2534-162 A23k-01/16 A231-b-03/12 A61k-07/46

04122 (20pp)

and 1,3-oxathiolanes are of formula (I) (in which (a) m is 0 or 1 and R1-8 are each H or an (un)satd. 1-11C linear alkyl gp.), (b) n is 1 and m is 0 or 1; R1-4 are as above; R5 and R6 are each H and R7 forms a (5 or 6 membered) pentane/cyclohexane ring with R8; (c) n is 1 and m is 0 or 1; R5, R6 and R7 are each H; R2 is H or lower alkyl; R4 is phenyl or (un)subst. cyclohexenyl and R8 is lower alkyl and m is 0 or 1; R1, R3, R5, R6 and R7 are each H; R2 is (p-phenyl or (un)subst. cyclohexenyl; R4 is H or lower alkyl



(or lower alkyl).

used to modify, improve or reinforce the organoleptic properties of foodstuffs, feedstuffs, drinks, pharmaceutical products, tobacco prods. or perfumes or perfumed compns.

D23

01296 D/02 ★SU-732-365

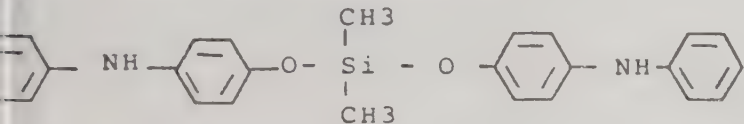
on of fats and oils - by using di:methyl-di:para-phenylphenoxy silane as antioxidant adduct

COMPDS BIOL 28.02.77-SU-457299

(05.05.80) C11b-05

457299 (3pp124)

Fats can be stabilised against oxidation more efficiently by 0.001-0.1 wt.% of dimethyl-di-(p-phenylamino-phenoxy)-silane of formula (I) and mol.wt. 426.57. The cpd. is obtd. by reacting p-hydroxy-diphenylamine with dimethyl-dichlorosilane in benzene solvent, in the presence of ammonia. It is nontoxic, stable at temps. up to 370 deg. C and shows activity 100-1000 times greater than the known ethoxypolysiloxane oil.



D23

01297 D/02 ★SU-732-366

etheral oils from citrus fruit - by treatment with caustic soda of prescribed strength, removal of rind by abrasion, washing and sepn. of phases

SI UNIV 20.07.77-SU-509479

(30) C11b-09/02

509479 (3pp124)

Oils are extd. from citrus fruit more simply and efficiently by treating the latter with a 10-50% soln. of NaOH for 0.9-9 min. at 40-60 deg. C, washing free of alkali, and removing the rind by abrasion with a potato peeling machine. The suspension is then sepd. by centrifuging, oil phase sepd. from the aq. phase and ethereal oils are washed free of wax and traces of water by freezing. The fruit, still covered with the pith, remains suitable for consumption and processing.

D23

33794 A/19 = US 4239-923

ene derivs. contg. opt. esterified tert. hydroxyl gp. - are useful in perfumery and are prepd. from di:alkyl-cyclooctadiene, by oxidation and redn.

LOIL CO 01.11.76-GB-045309

(16.12.80) \*DE2748-798 C07c-33/02

090769 (+ 25.10.77-US-844956) (4pp393)

of alpha-linalool comprises (a) epoxidising 1, 5-dimethylcycloocta-1,5-diene by reaction with alkyl hydroperoxide in the presence of Ti or Mo as catalyst to give 5,6-epoxy-1,5-dimethyl-1-cyclooctene (I), (b) reducing (I) with Na, K to Li in the presence of liq. ethylene diamine, diethylamine, pyridine or triethylphosphoric acid triamide to form 1,5-dimethylcyclooct-2-ene (II), and (c) thermally isomerising (II) at 350-650 deg. C. The product is a well known aroma chemical.

SCMZ ★

D23

01798 D/02 ★US 4240-969

Inexpensive prepn. of methofuran - from isopulegol by epoxidation, then oxidn. to isopulegone epoxide, then cyclo:dehydration

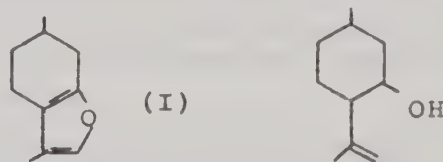
SCM CORP 04.09.79-US-072182

E13 (E15) (23.12.80) C07d-303/12 C07d-307/79

04.09.79 as 072182 (4pp478)

Menthofuran (I) is synthesised as follows: (a) isopulegol (II) is epoxidised; (b) the resulting isopulegol epoxide (III) is oxidised to afford isopulegone epoxide (IV); and (c) (IV) is cyclodehydrated to furnish (I). All stereoisomers of (II)-(IV) are included.

This simple process affords (I) in good yield and free from by products from the readily available, inexpensive (II). (I) is used to formulate certain synthetic essential oils, esp. peppermint oil.



CANP

D23

54003 C/31 = US 4240-972

Continuous treatment of tri:glyceride oil(s) with acid - by addn. of acid to hot oil, then intensive mixing in e.g. static-mixer

CANADA PACKERS LTD 19.12.78-US-971041

(23.12.80) \*GB2038-863 C11b-03/04 + C09f-05/02

19.12.78 as 971041 (5pp931)

Crude triglyceride oils are contacted with an acid to remove phosphatides and heavy metals in a continuous process.

The method comprises continuously introducing the acid into a stream of heated oil which is then intensively mixed such that the acid is dispersed in the oil as droplets of size less than 10 microns dia., and the phosphatides instantaneously reacted with the acid. Pref. the acid-treated oil is later subjected to alkali-refining or bleaching and steam-refining.

The treated oils are esp. used in salad and cooking oils, margarines and shortenings.

ETHY ★

D23

01804 D/02 ★US 4240-985

Prepn. of alkyl-substd.-aldehyde(s) - by acid cleavage of 2,2-di:alkyl-tetra:hydro pyran(s), useful in perfumery compns. and as intermediates, etc.

ETHYL CORP 26.02.79-US-015369

E17 (23.12.80) C07c-47/02

26.02.79 as 015369 (4pp478)

Alkyl-substd. alkanals (I) are prepd. from 2,2-di-lower-alkyl - tetrahydropyrans (II) contg. 2 H atoms in the 6-position by treatment with a strong acid at 50-200 deg. C. The acid is H3PO4, polyphosphoric acid, PhSO3H, TsOH, HCl, or H2SO4. Reaction is pref. at 90-100 deg. C using H3PO4. (II) are pref. prepd. in situ by treatment of a prim. 6-alken-1-ol (contg. 1 or more Me gps. in the 5-position) with the acid.

Process is simple and affords (I) in good yield free from the corresp. alkanolic acid. (I) are useful in perfumery, as substrates for testing the efficacy of antioxidants, and as intermediates for acids, alcohols, hydrazones, etc..

INFL ★

D23

01926 D/02 ★US 4241-228

Alkyl-3-cyclopentenyl:alkenyl cyclopentanol and cyclohexanol cpds. - used in conc. liq. detergents imparting sandalwood and cedar-wood aromas

INT FLAVORS & FRAGR INC 22.03.79-US-023322 (10.08.78-US-932677)

E15 (D21 D25) (23.12.80) C07c-35/21

22.03.79 as 023322 Div.ex 4173585 (48pp513)

Trimethylcyclopentene cpds. of formula (I) are claimed in which m = 0 or 1; one of the lines + + + + is a single carbon-carbon bond and the other is a double carbon-carbon bond; and X is a carbinol gp. (CHOH)-. Also disclosed are 2,2,3-trimethyl-3-cyclopenten-1-ylalkenyl and alkylidene sec. alkanols, alkanones, cycloalkanols and cycloalkanones - single The cpds. are useful perfume and fragrance components e.g. in soaps, detergents, powders, colognes, etc., imparting rich, musky, cedar woody, sandalwood, sweet, floral, ionone-like, soft-fruity(apricot), green and earthy aromas with resinous topnotes and nutty oil nuances.





## D24: SOAP; SOAP DETERGENTS

NOTHING TO REPORT

## D25: OTHER DETERGENTS

**PROC** **D25** **14038 A/08 = GB 1582-290**  
 Sheet impregnated with long chain amine formate - added to laundry dryer to soften fabrics  
**PROCTER & GAMBLE CO** 20.08.76-US-716302  
**A97 E16 F06** (07.01.81) \*BE-857-942 D06m-13/36  
 19.08.77 as 034910 (12pp977)  
 Article of mfr. for fabric softening within an automatic clothes dryer comprises (a) softening compsn. comprising a formic acid salt of 12-22C alkyl prim. amine, and (2) dispersing means which provides for release of the softening compsn. within an automatic laundry dryer at the operating temp.  
 Softening and antistatic effect is imparted to the fabrics.

**PROC** **D25** **15920 A/09 = GB 1582-299**  
 Stable bleach particles - comprising solid peroxy acid coated with a surfactant  
**PROCTER & GAMBLE CO** 27.08.76-US-718283  
**E19 F06** (07.01.81) \*BE-858-145 D06l-03/02  
 26.08.77 as 035955 (8pp977)  
 Peroxy bleaching particles comprise an inner core of solid peroxy acid cpd. which is a water-soluble peroxy acid (salt) and as a coating an organic anionic, semi-polar or zwitterionic surfactant cpd. The surfactant is present in amt. 5-100 wt.% of peroxy acid cpd. and the coated particles have dia. 1-150 microns.  
 The particles maintain bleach effectiveness and fabric safety through improved solubility over an extended shelf period.

**KAOS \*** **D25** **01107 D/02 ★ J5 5144-099**  
 Detergent compsn. contg. alkyl:ether fatty acid and ammonium salts - having excellent detergency and foaming properties and with no undesirable effects on skin  
**KAOSOAP KK** 27.04.79-JP-052395  
**A97 E12 (A25 E16)** (10.11.80) C11d-01/65  
 27.04.79 as 052395 (9pp117)  
 A detergent compsn. contains 5 to 30 wt.% an alkylether fatty acid salt of the formula R1-A-(CHR'-CHRO)n-B-COOM (R1 is a 6-22C alkyl or alkenyl gp. or an alkylphenyl gp. with a 6-17C alkyl gp., R' and R are, respectively, H, Me or Et gp. (but any one of R' and R is H), A is O or S, B is 1-3C alkylene gp., M is an alkali(ne earth) metal, ammonium, or 2-4C alkanolamine, and n is 0 to 20) and 1-10 wt.% an alkylammonium salt of formula NR3R4R5R6(+)X(-) (R3 is a 6-15C alkyl gp., R4, R5 and R6 are, respectively, a 1-3C alkyl, hydroxyalkyl, or -(C2H4O)mH gp. (m is 1 to 10), and X a halogen or a monoalkyl sulphuric acid gp. with a 1-3C alkyl gp.).  
 The detergent compsn. has not only a very moderate action on skin but also excellent deterging force and excellent foaming agency, and thus is effectively applicable to the washing of table ware, vegetables, hair, human body, silk, wool, acetate fibre, etc.

**DAIK \*** **D25** **01108 D/02 ★ J5 5144-100**  
 Cleaner comprises halogen free organic solvent and fluorinated alcohol - removes soil and stains of resin conig. products e.g. paint, ink, abrasive and flux, from surfaces  
**DAIKIN KOGYO KK** 27.04.79-JP-053041  
**(10.11.80) C11d-07/60**  
 27.04.79 as 053041 (4pp117)  
 Compsn. contains a halogen-free organic solvent (a) e.g., hexane, octane, petroleum ether, nitromethane, nitrobenzene, cyclohexylamine, ethanolamine, methyl or propyl alcohol, ethylene glycol, isopropyl ether, propylene oxide, acetone, ethyl acetate, aceto nitrile, CS2, etc., and a fluorinated alcohol (b) of the formula X(CnF2n)CmH2mOH (X is H or F, m is 1 to 3 and n is 1 to 10), e.g. H(CF2CF2)aCH2OH, H(CF2CF(CF3))bCH2OH, etc. in an (a)/(b) wt. ratio of 95 to 30/5 to 70. The compsn. may contain a surfactant, e.g. alkylbenzenesulphonates, alkylsulphates, etc., and a stabiliser, etc.  
 The compsn. can dissolve and remove resin stains and soil.

**HERC \*** **D25** **01233 D/02 ★ NL 8003-241**  
 Cellulose ether with long-chain hydrocarbon substit. - insoluble in water, soluble in surfactants, for detergent compsns.  
**HERCULES INC** 06.06.79-US-045819  
**A11 (A97)** (09.12.80) A61k-07/08 B01f-17/42 C08b-11/19  
 04.06.80 as 003241 (16pp510)  
 Cellulose ether (I) has CH3, hydroxyethyl or hydroxypropyl gps. as non-ionic substitu., in amt. such that the ether is water-sol., and also carries a 10-24C hydrocarbon radical in an amt. between the amt. which renders the ether water-insol. and 8 wt.%, w.r.t. the total wt.

of the modified ether.

(I) is used in detergent compsns., and as an emulsifier systems.

**BADI** **D25** **15064 C/09 = US 4234-001**  
 Mechanical clear rinsing of vessels - using bath contg. quat. carboxylic acid or their ester  
**BASF AG** 03.08.78-DE-833991  
**E19** (16.12.80) \*EP---8-059 C11d-01/72 C11d-03/20 + C11d-03/20  
 23.07.79 as 059776 (4pp936)  
 Dishes are machine washed using several cleaning and rinsing cycles. Rinsing is effected with oxyalkylated cpds contg. quat. carboxylic acid or their ester, and solubilisers, opt with mono- or polyhydric alcohols.  
 The improvement is that a rinsing liquor concentrate is emulsified which contains di-, tri- or tetrahydric alcohols, mono- or di-(hydroxy)carboxylic acid or their mixts. Alcohols and acids contain 9C atoms, of which 1C atom is quat. Alcoholic OH gps are primary and the carboxyl gp is bonded to the quat C atom. Amt of cpd contg. 1C atom is at least 0.2 wt% based on wt concentrate.  
 More effective rinsing is achieved esp when washing porcelain or glasses.

**FINE- \*** **D25** **01511 D/02 ★ US 4234-001**  
 Cationic surfactant compsns. compatible with anionic surfactants - contg. di:ethyl sulphate salts of cyanoethylated fatty acid amides for cleaning and conditioning hair etc.  
**FINETEX INC** 11.12.79-US-102555 (05.03.79-US-017186)  
**E16 (D21)** (16.12.80) C11d-01/04 D06m  
 11.12.79 as 102555 (5pp478)  
 Cationic surfactant compsn. consists of a mixt. of the di:ethyl sulphate salts (III) and (IV) respectively of the cyanoethylated fatty acid amides RCONH(CH2)2N(CH2CH2CN)(CH2)2NH(CH2)2CN (I) and (RCONH(CH2)2N(CH2CH2CN)(CH2)2NHCOR) (II). (III) and (IV) are present in mol.% ratio 1:2-3. In the formulae R is an unbranched hydrocarbon.  
 The compsn. is compatible with anionic surfactants, and with H2O affords a cleaning system which is extremely useful for simultaneous cleansing and conditioning of human hair, fabrics, textiles, etc. In addn., the compsn. has high stability and long life.

**PROC \*** **D25** **01514 D/02 ★ US 4234-001**  
 Air sensitive detergent packaged in heat sealed pouch - comprising laminate of inner and outer polymer layers and intermediate aluminium foil and paper layers  
**PROCTER & GAMBLE CO** 19.06.79-US-050032  
**A92 P73 Q34** (16.12.80) B32b-15/08 B65d-75/26 B65d-81/22  
 19.06.79 as 050032 (3pp966)  
 A granular detergent compsn. comprises air sensitive component (I) in a pouch formed by heat sealing a laminate of (a) outer layer of 0.0005-0.001 (0.0005) inch of oriented polypropylene, polyester or cellophane of m.pt. above 350 deg.F (b) layer of Al foil of thickness 0.0003-0.0005 (0.0003) inch, (c) layer of paper of basis wt. per ream 50, (25) lbs. and (d) inner layer of thickness 0.001-0.002 (0.001) inch comprising a hot melt glue of polyethylene and/or wax having a m.pt. of 150-350 deg.F. The pouch has a reclosable spout.  
 The laminate provides good dead fold and reseal property, allowing the spout to be closed up or opened by simply folding the fold (as in milk cartons) at the top of the pouch.

**ALBR** **D25** **33801 A/19 = US 4234-001**  
 Stable detergent powder prodn. - by adding a conc. gel-forming alkoxylated alcohol soln. to the other spray-dried components  
**ALBRIGHT & WILSON LTD** 02.11.76-GB-045509  
**E17** (16.12.80) \*DE2748-854 + C11d-07/54  
 31.10.77 as 847379 (3pp974)  
 Solid powdered detergents having at least one ethoxylated alcohol radical, an ave. of 10-18C in the alcohol and an ave. of 6-12C in the alkyl radicals are mfrd. by adding the ethoxylated alcohol in liq form to a spray-dried powder detergent mixt. contg. 1-7 wt.% residual unbound water.  
 The alcohol is in aq. soln. at a concn. higher than the min. at which a gel is formed and in sufficient proportion so that, when added to the spray-dried mixt. it forms an immobile gel on the powder forming the mixt. Pref. the alcohol gp. has an ave. of 12-14C.



**D25** 15065 C/09 = US 4239-641  
 filler for detergent slurries - comprising alcohol, acid, ester contg. a quat. carbon atom  
 03.08.78-DE-834073  
 2.80) \*EP---8-060 C11d-03/06 + C11d-11/02  
 77 (4pp964)  
 slurries of detergents and cleansers is adjusted by or tetrahydric aliphatic alcohols, monobasic aliphatic acids, hydroxycarboxylic acids, esters of the alcohols mixts. of these. The acids and alcohols contain 5-9C one quat. atom. The alcohols and hydroxycarboxylic acids are prim. alcohol gps; and the (hydroxy)carboxylic COOH gp. bonded to the quat. C.  
 regulator used is at least 1wt.% based on solids content. The regulators act to reduce viscosity of the slurries, the slurries against fluctuations in viscosity. A specific pentyl glycol hydroxypivalic acid ester.

**D25** 46664 C/27 = US 4239-659  
 or phosphate-free detergent - contg. mixt. of nonionic surfactants providing good release of particulate and fabrics  
 & GAMBLE CO 15.12.78-US-969909  
 26) (16.12.80) \*EP--12-483 C11d-01/83  
 909 (10pp964)  
 compsn. contg. 0-20% phosphate materials comprises 5-10% of a surfactant mixt. consisting of (a) a nonionic surfactant of HLB 5-17; and (b) a cationic surfactant of formula  $(R_1)_n(R_2)_m$  (I) (where R is 20-30C alkyl, each R' is 1-4C alkyl or benzyl with not more than 1 R' being benzyl; and Z selected from halides, hydroxide, nitrate, sulphate and phosphates. The ratio by wt. of the nonionic surfactant to the cationic surfactant is 3:1-15:1 (4:1-10:1). Pref. the pH of the compsn. is 8-10. The compsn. provide excellent particulate and greasy/oily soil removal and additionally provide fabric softening, static control, and dye transfer inhibition.

**D25** 01520 D/02 ★US 4239-660  
 detergent compsns. - contg. nonionic and cationic surfactants, with inorganic alkaline cpd.  
 & GAMBLE CO 13.12.78-US-969115 (23.12.77-US-4239-660)  
 25 E14) (16.12.80) C11d-01/83 C11d-03/10  
 115 C.i.p. 864135 (12pp478)  
 consists of: (a) 2-95% of a surfactant mixt.; and (b) 1-25% of an alkaline cpd. (borax.10H<sub>2</sub>O, borax. 5H<sub>2</sub>O, Na<sub>2</sub>CO<sub>3</sub>, or other alkali). The compsn. has pH 8-10 within 3 min. of being placed in water at approx. 0.15% at 100 deg.F.  
 contains: (i) a nonionic surfactant (III) of HLB 5-17; and (ii) a cationic surfactant R<sub>2</sub>-(Z<sub>1</sub>)<sub>a</sub>-(R<sub>3</sub>)<sub>n</sub>-Z<sub>2</sub>-(CH<sub>2</sub>)<sub>m</sub>-N(R<sub>1</sub>)<sub>3</sub>(+) X(-) (I) where (CHR'<sub>2</sub>)<sub>n</sub>O<sub>y</sub>-(Z'<sub>1</sub>)<sub>a</sub>-(R'<sub>4</sub>)<sub>t</sub>-Z'<sub>2</sub>-(CH<sub>2</sub>)<sub>m</sub>-N(R'<sub>1</sub>)<sub>3</sub>(+) X(-) (II); (I) and/or (II) of 1-100:1.  
 formulae, each R<sub>1</sub>,R'<sub>1</sub> is 1-4C (hydroxy)alkyl; R<sub>2</sub> is 5-30C alkyl, alkenyl, alkylbenzyl, alkylphenyl or X(-) where X is H, OH, NH<sub>2</sub>, COOH, SO<sub>3</sub>H, SH, SiH<sub>3</sub>, or other functional group; s is 0-5; R<sub>3</sub> is 1-20C alkylene or alkenylene; a and n is 1 when n is 1; mm' is 1-5; Z<sub>1</sub> and Z<sub>2</sub> is -CO<sub>2</sub>-, OCO-, O-, NH-, -NHCO-, -OCONH-, -NHCO<sub>2</sub>- (at least one is an amide); X is anion to make the surfactant at least water soluble; R'<sub>2</sub> is Horl-3C alkyl; R'<sub>3</sub> is 4-30C opt. branched alkyl or alkylbenzyl; R'<sub>4</sub> is 1-10C alkylene or alkenylene; n is 1 when t' is 0 or 1 (a is 1 only when t' is 1); Z'<sub>2</sub> is -CO<sub>2</sub>-, CO-, O-, NH-, -NHCO-, -OCONH-, -NHCO<sub>2</sub>- and Z'<sub>1</sub> is -CO- or -C<sub>10</sub>NH- so attached to (+)N(R<sub>1</sub>)<sub>3</sub> in (II) is an alkyl or alkenyl gp. interrupted by only -CO<sub>2</sub>-, -OCO-, -C<sub>10</sub>NH-, -NHCO-, O-, NH- or -NHCO<sub>2</sub>-.

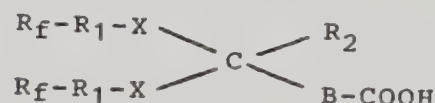
are storage stable, and show excellent particulate removal and oily soil removal props., as well as imparting fabric softening and dye transfer inhibition benefits to

**D25** 64914 B/36 = US 4239-662  
 compsn. e.g. for heavy duty cleaning - contains olefin sulphonate, ethoxylated alcohol and magnesium

& OIL KK 17.02.78-JP-017237  
 25 E33) (16.12.80) \*DE2906-074 C11d-01/14  
 2519 (6pp964)  
 compsn. comprises (a) water; (b) 5-40wt.% of a 10-20C alpha olefin sulphonate; (c) 1-8wt.% of an addn. of prim. alcohol with average of 1-20 moles of ethylene oxide per mole of prim. alcohol, or addn. prod. of 9-18C sec. alcohol with average of 3-15 moles of ethylene oxide permole of sec. alcohol; (d) 0-10wt.% Mg sulphate. The components (b), (c) and (d) are in the compsn. in the wt. percents given are based on the total weight of the compsn. further comprises up to 1.5 wt.% ethanol. The compsn. has decreased tendency towards film formations on surfaces when exposed to air, without loss in detergency and

**MAGN-★** **D25** 01539 D/02 ★US 4239-695  
 Amino phosphonic acid prodn. from nitrile cpds. - by reaction with phosphorous acid  
 MAGNA CORP 24.03.77-US-780883  
 E11 H01 M14 (16.12.80) C07c-121/16 C07d-213/53 C07f-09/38  
 24.03.77 as 780883 (6pp367)  
 Prepn. of amino phosphonic acids of formula H<sub>2</sub>N-C(PO<sub>3</sub>H<sub>2</sub>)<sub>2</sub>-X (I) is carried out by reacting nitriles of formula X'-CN (II) with H<sub>3</sub>PO<sub>3</sub> at 100-200 deg. C. In the formulae X is R, R'-CNH<sub>2</sub>(PO<sub>3</sub>H<sub>2</sub>)<sub>2</sub>, (CH<sub>2</sub>CH)<sub>n</sub> or R'-CN; X' is R, R'-CN or (CH<sub>2</sub>CH)<sub>n</sub>; R is opt. satd. 1-22C aliphatic gp., phenyl, benzyl, naphthyl or a substd. aliphatic or aromatic gp.; R' is a divalent 1-10C aliphatic gp.; n is at least 2.  
 (I) are surfactants with chelating properties, e.g. useful as water softeners, scale inhibitors (e.g. for use in oil prodn. systems), corrosion inhibitors, thinners for aq. slurries of inorganic materials and detergent builders. The process gives high yields (e.g. 49-86%) without the use of highly corrosive reagents.

**CIBA** **D25** 42487 A/24 = US 4239-915  
 Bis(perfluoroalkyl gp.-contg. carboxylic acid surfactant - prepd. from perfluoroalkyl-thiol and aldehyde- or keto-acid  
 CIBA GEIGY CORP 02.12.76-US-747114  
 A60 E16 F06 (F09) (16.12.80) \*DE2753-128 + C07c-51/34  
 02.12.76 as 747114 (7pp918)  
 Perfluoroalkyl acid for formula (I) is new where R<sub>f</sub> is 1-18 (pref. 6-12)C perfluoroalkyl opt.substd. by 2-6C perfluoroalkoxy. R<sub>1</sub> is an opt.branched 1-12C (pref.2-8)C alkylene, 2-12(pref.2-8)C alkylene, 2-12 (pref.2-8)C alkyleneiminoalkylene where the N is also substd. by H or 1-6C alkyl (or pref.methyl). R<sub>2</sub> is H, opt.branched 1-6C alkyl, phenyl, up to 18C alkyl substd. phenyl or -B-COOH where B is up to 18C alkylene or a covalent bond. Five cpds. are specifically claimed including 4,4-Bis(1,1,2,2-tetra-hydroperfluorodecylthio)pentanoic acid.  
 Cpds. are useful in textile treatment or can be used in chromium complexes with oil and water repellent properties. They are also used in prepn. of surfactants.



**RHON** **D25** 33374 B/18 = US 4240-918  
 Anti-soil and anti-redeposition detergent compsn. - partic. for polyester, contains hydrophilic polymer with solubiliser and water-repellent

**RHON-POULENC INDUSTRIES** 02.11.77-FR-033486  
 A97 (A23 A25) (23.12.80) \*BE-871-715 C11d-03/20 C11d-07/54  
 02.11.78 as 957058 (12pp964)  
 Antisoiling and antiredeposition agent formulation comprises (i) polymer A which is hydrophilic polyurethane and/or a copolyester having anti-soiling and antiredeposition properties; (ii) at least one solubilising and dispersing agent B for the polymer (A); and (iii) at least one water repellent C present in sufficient amt. to act as water repellent C present in sufficient amt. to act as water repellent for B. Specific copolyesters A comprise recurring units of alkylene terephthalate and of polyoxyalkylene terephthalate. Pref. B is soluble in water and has a m.pt. of 35-150 deg.C.

The antisoiling and antiredeposition properties are retained during storage of detergents contg. the formulation.

**JOHS** **D25** 41937 C/24 = US 4240-919  
 Stable liq. abrasive scouring compsn. - contg. abrasive, bleach, light density filler, and multivalent metal stearate to give thixotropy

**JOHNSON SC & SONS INC** 29.11.78-US-964318  
 E12 (23.12.80) \*EP--11-984 C11d-03/39 + C11d-17/08  
 29.11.78 as 964318 (6pp931)  
 A stable, liq., abrasive cleaning compsn. comprises 1-60 wt.% of a water-insoluble particulate abrasive, 0.1-10 wt.% of bleach, 0-20 wt.% of a non-multivalent stearate surfactant, 0-10 wt.% of a bleach stable electrolyte, 5-20 wt.% of a light density filler, 0.05-10 wt.% of a multivalent stearate soap, and water.

The compsn. contains at least some electrolyte or non-multivalent stearate surfactant, and is free of bodifying agents e.g. colloidal silica, atapulites, smectites, and/or diatomaceous earth.

The abrasive is e.g. titanium dioxide, silica sand, calcium carbonate, and the bleach stable electrolyte can maintain a compsn pH of 10.5-14. The filler is e.g. powdered polyethylene, polypropylene, polystyrene or glass microspheres, and the stearate soap is aluminium mono-, di- or tristearate, calcium-, zinc-, magnesium- or barium stearate, in opt. mixt..

Prod. is easy to dispense and large scale settling and packing does not occur.

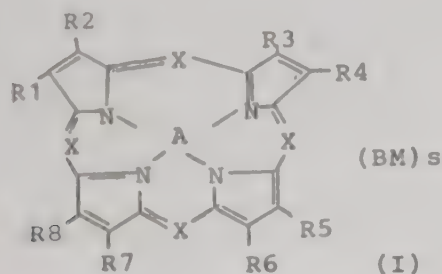


**PROC** **D25** 64996 B/36 = US 4240-920  
Detergent bleach compsn. effective under dark conditions -  
comprising a surfactant and peroxy and porphin bleaches  
PROCTER & GAMBLE CO 28.02.78-CA-297842  
E19 (23.12.80) \*EP---3.861 + C11d-07/38

27.02.79 as 015677 (19pp945)  
Stains are removed from cotton fabrics using a detergent bleach  
compsn. comprising (A) surfactant, (B) peroxy bleach and (C)  
porphine bleach. (A) is an anionic, nonionic, semipolar, ampholytic  
or cationic surfactant and comprises 5-50 wt.% of the compsn.

(B) has available O content of 0.2-5.0 wt.% based on the compsn.  
and is an alkali metal perborate, percarbonate, persulphate,  
persilicate perphosphate or perpolyphosphate, urea peroxide or an  
organic peroxy acid or its anhydride or salt of formula HO-O-CO-R-  
Y (where R is 1-20C alkylene or phenylene and Y is H, halo, alkyl or  
aryl).

(C) comprises 0.001-0.5 wt.% of the compsn. and has formula (I), X  
is N or CY in which each Y is H, or meso-substd. (cyclo)alkyl,  
(alk)aryl, aralkyl or heteroaryl. Each R is independently H or  
pyrrole substd. (cyclo)alkyl, (alk)aryl, aralkyl or heteroaryl, or  
adjacent R gps. combine to form pyrrole substd. alicyclic or  
heterocyclic rings. A is 2H atoms bonded to diagonally opposite N  
atoms, divalent Zn, Cd, Mg or Ca, Al (III), Sc (III) or Sn (IV). B is a  
defined anionic, nonionic or cationic solubilising gp. attached to Y or  
R; M is its counter-ion and S is an integer.



**STAU \*** **D25** 01771 D/02 \*US 4240-920  
Alkaline detergent concentrates for bottle washing - contg  
nonionic surfactants and an alkyl glycoside or glycidyl ether  
STAUFFER CHEMICAL CO 28.03.79-US-024632 (13.12.79  
750036)

A97 (23.12.80) C11d-01/72 C11d-07/06  
28.03.79 as 024632 C.i.p.4147652 (+ 3.5.78-US-902301) (4pp367)  
Water-based liq. cleaning concentrates contain 10-35 wt. %  
metal hydroxide (I) and 10-50 wt.% of a mixt. of  
polyoxyethylene-polyoxypropylene condensate with  
depressing tendencies at less than 40 deg. C, (b) a  
ethoxylated alcohol, and (c) an alkyl glycoside or a glycidyl ether  
a 12-24C alcohol or an alkylphenol. The (a):(b) wt. ratio is ca. 1:1  
the wt. ratio of (a) + (b) to (c) is 5-10:1.

The concentrates can be diluted with water or aq. (I) to prep.  
low-foaming compsns. for washing bottles and other food  
beverage containers. They can be prepd. without using solid (I).

**FARH** **D25** 79391 B/44 = US 4240-920  
Colourless tetra:acetyl-ethylene di:amine prepn. - by di:acetyl-  
ethylene di:amine acetylation with acetic anhydride opt. with ketone  
addn.

HOECHST AG 21.02.79-DE-906606 (14.04.78-DE-816174)  
E16 (23.12.80) \*EP---4.919 C07c-102  
11.04.79 as 029258 (5pp974)  
N,N,N',N'-Tetraacetylenediamine (I) is mfd. by acetylation  
N,N'-diacetylenediamine (II) with acetic anhydride (III) at  
170 deg.C. Process comprises (a) using (II) and (III) at a wt. ratio  
1:1-10; (b) stopping before the reaction equilibrium between (I)  
(II) is attained; (c) purifying the brown reaction mixt. after or before  
the sepn. by crystallisation of (I) in order to remove the dy-  
impurities and (d) recycling the purified and recovered reac-  
components not completely reacted to the acetylation.

(I) is an important additive for detergents where it serves as  
perborate activator.

See Also

D23 US4241228



- 76 ABBOTT LABORATORIES B03 D22 = GB 1582-483  
 hyl deriv. of antibiotic XK-88-5 - 13392A/07
- 79 AERATION IND INC D15 J02 = US 4240-990  
 f liquid by pumping past gas nozzle - 85934B/47
- 79 AMER HOSPITAL SUPPL CORP A96 B04 D16 S03 \*WP 8002-  
 for turbidimetric lipase assay - 01965D/02
- 8 AIR PRODUCTS & CHEM INC D15 F09 = US 4239-589  
 ous black liquor oxidn. and concn. - 27724C/16
- 76 ALBRIGHT & WILSON LTD D25 E17 = US 4239-640  
 ergent powder prodn. - 33801A/19
- 79 BUSH BOAKE ALLEN LT D23 E15 \*GB 2050-365  
 thyl-3-isobutenyl-4-formyl-cyclohexene isomer mixts. -
- 80 BUSH BOAKE ALLEN LT D23 E16 = GB 2050-350  
 thyl-heptene-nitrile(s) - 77470C/44
- 79 ALCOOL DO ESTADO SAO PAU D16 J01 \*BR 7903-741  
 ve condenser for use in alcohol vapour distn. system - D/02
- 75 AKZONA INC A96 D22 F01 (A14) \*US 4240-937  
 sorbent cellulose fibre for tampon mfr. - 01779D/02
- 79 AKZONA INC D22 E13 \*US 4240-926  
 on type and degree indicator - 01774D/02
- 79 AKZO NV D16 = PT --71-369  
 removal from fermented drinks - 75366C/43
- 9.76 AMER CHEM REFINING D15 M25 (M11) = CA 1090-584  
 metal precipitation and cyanide decomposing agent -
- 06.79 AMERICAN MONITOR CORP B04 D16 S03 S05 #GB 2050-  
 c determination of tri-glyceride(s) in serum - 44032B/24
- 1.77 AMERICAN STERILISER CO D22 E13 \*US 4239-731  
 ods sterilisation with ethylene oxide - 01557D/02
- 2.79 AMER STERILIZER D22 = US 4241-010  
 isation for biocidal treatment of goods - 82930C/47
- 2.75 AGENCE NAT VALORISATION B07 D16 = AT 7600-837  
 sions of metabolisable vegetable oils - 65270X/35
- 9.76 APOTHEKERNES LAB FU A/S C01 D13 = IL --53-066  
 eed additive contg. zinc bacitracin - 10348A/06
- 4.79 AQUATIC DIET TECHNO C03 D13 \*US 4239-782  
 for enhancing the colour of fish - 01575D/02
- 3.75 ARAKAWA E D15 = J5 1102-353  
 or purifying water - 00446D/01
- 3.79 EOURME SOC ARMEMENT A88 D14 = FR 2451-253  
 rollers for cleaning feed roll teeth on food skinning machine -
- 2.73 ASAHI GLASS KK D15 E33 = J8 0049-009  
 r of fluorine from waste water - 66325W/40
- 5.76 ASAHI KASEI KOGYO D15 E36 = US 4240-376  
 water in fish tank - 11105A/06
- 3.79 ASAMA CHEM CO LTD D21 = FR 2451-192  
 or preventing mouth odour due to food or drink - 70020C/40
- 06.79 AUGUSTINI AK H B04 D16 = WP 8002-848  
 of Myxococcus fulvus and its extracts - 00129D/01
- 76 BASF AG C03 D13 = GB 1582-397  
 F based on brewer's yeast - 04345A/03
- 76 BASF AG C03 D13 = IL --52-940  
 ervative for animal feed - 25194A/14
- 78 BASF AG D25 E19 = US 4239-552  
 cal clear rinsing of vessels - 15064C/09
- 78 BASF AG D25 E17 = US 4239-641  
 modifier for detergent slurries - 15065C/09
- 77 BATHIELE MEMORIAL I C03 D13 = US 4241-089  
 rate based ruminant feedstuff - 89608A/49
- 79 BATHIELE MEMORIAL D15 J01 X25 \*WP 8002-650  
 f aq. sludge, e.g. from waste water treatment - 01946D/02
- 75 BEATRICE FOODS CO D13 = CA 1090-652  
 reese substitute or extender - 46868Y/26
- 79 BEATRICE FOODS CO D12 \*WP 8002-788  
 fried snack food prodn. - 01985D/02
- 79 BECTON DICKINSON CO D16 \*US 4241-188  
 anisms culture bottle with stopper lock - 01904D/02
- 2.78 BEDROSIAN & ASSOCIA A92 D13 (A11 A17) #CA 1090-744  
 ed atmosphere tomato package - 28703A/15
- 77 BEIERSDORF AG B05 D21 E16 = AT 7806-782  
 and parodontosis inhibiting dental and/or oral hygiene compsns. -
- 74 GEBR BELLMER MASCH D15 J01 = J5 0125-366  
 of liquids from sludges - 59038W/36
- 5.78 BENCKISER-KNAPSACK D13 E17 (D17) = US 4239-922  
 hol esp. xylitol prepn. - 03828C/03
- 77 BENECKE J H GMBH A87 D22 = US 4240-416  
 te absorbent sheet for hygienic and medical uses - 68978A/39
- 78 BIOCHEMIE GMBH B04 D16 \*AT 7802-193  
 c substance mfr. - D/02
- \*BIOL- 02.08.79 BIO-LAB INC D15 \*US 4241-025  
 Chlorinator holding stack of horizontal soluble sticks - 01824D/02
- BOEF 06.05.75 SUDDEUTSCHE ZUCKER B03 D13 E13 = SE 8005-510  
 Glucopyranosido-1,6-mannitol used as sugar substitute - 70494X/38
- BORW 13.12.76 BORG WARNER CORP D15 E11 L02 M14 = CA 1090-  
 818
- Tris-hydroxymethyl-ethyl-phosphonic acid - 44422A/25
- BOWA/ 06.06.79 BOWALD S A96 D22 = WP 8002-641  
 Prosthesis for blood vessel having porous inner wall - 73500C/42
- BRBL 12.03.79 BRAUNSCHWEIG MASCH D17 = FR 2451-398  
 Installation to purify juice in mfg. beet sugar - 41510C/24
- \*BREW- 21.07.78 BREWSTER LAB INC A96 D21 \*US 4240-760  
 Foam scrubbing device - 01710D/02
- BRIM 02.04.79 BRISTOL MYERS CO B02 C02 D16 (D13) = GB 2050-384  
 Antimour antibacterial complex BBM-928 and individual components -  
 73461C/42
- BRPE 08.11.76 BRITISH PETROLEUM LTD D16 = GB 1582-530  
 Polyploid asporogenic yeast prepd. from a sporogenic yeast - 55487A/31
- BRVI- 05.09.75 BRITISH VINEGARS D16 = AT 7606-424  
 Separating water from aq. solns. esp. from vinegar - 16457Y/10
- BRVI- 05.09.75 BRITISH VINEGARS D16 = CA 1090-650  
 Separating water from aq. solns. esp. from vinegar - 16457Y/10
- BUCL 21.07.75 BUCKMAN LABS INC A97 C03 D15 = J8 0049-042  
 Control of algae in water - 83123X/45
- BURR- 04.04.77 BURRUS F J & CIE A97 D18 (A14 A81) = AT 7704-159  
 Cigarette filter cover strip - 49875A/28
- BURR- 04.04.77 BURRUS F J & CIE A97 D18 (A14 A81) = AT 7704-160  
 Cigarette filter tip - 49876A/28
- BUTL- 18.08.78 BUTLER COUNTY MUSHR B04 D16 = GB 2050-134  
 Cell cultivation on solid substrate - 16783C/10
- \*BUTT= 16.02.78 BUTTER CHEESE IND D13 S03 X25 \*SU -733-614  
 Pepsin determination in milk-curdling preparations - 01328D/02
- BYDG- 05.06.79 BYDGOS BUDOWN PRZEM D15 = GB 2050-338  
 Compact treatment system for water or sewage - 00214D/01
- \*CADB 04.02.78 CADBURY TYPHOO LTD D13 \*GB 1582-319  
 Low fruit content jam substitute - 00873D/02
- CANP 19.12.78 CANADA PACKERS LTD D23 = US 4240-972  
 Continuous treatment of tri:glyceride oil(s) with acid - 54003C/31
- \*CERT- 16.06.78 CERTEK INC D22 S05 T06 \*US 4241-020  
 Formaldehyde decontamination of space - 01823D/02
- \*CHAL/ 29.05.79 CHALMERS E D21 S05 \*WP 8002-640  
 Electrical hair removal treatment - 01941D/02
- \*CHCO= 28.02.77 CHEM COMPDS BIOL D23 E11 \*SU -732-365  
 Stabilisation of fats and oils - 01296D/02
- CHET 03.05.76 CHEMETRON CORP B04 D16 S03 S05 (V05) = GB 1582-  
 303
- Analysis of biological specimens by ionising heat decomposition prods. -  
 85018Y/48
- CHET 14.03.77 CHEMETRON CORP B04 D16 S03 S05 (V05) = GB 1582-  
 304
- Analysis of biological specimens by ionising heat decomposition prods. -  
 85018Y/48
- \*CHEV/ 13.03.79 CHEVRIER A V D16 K01 \*FR 2451-201  
 Extinguishing powder contg. vegetal prod. pref. of marine origin -  
 00841D/02
- CHIN 20.11.78 CHINOIN GYOGYSZER A96 B04 D21 = AT 7907-385  
 Cyclodextrin inclusion complexes contg. camomile extract - 23769C/14
- CHPR- 22.04.76 INST PRZEMYSLU FARMACEUT B05 C03 D16 = GB  
 1582-378
- (N)-Glucosyl derivs. of polyene macrolide antibiotics - 59473Y/34
- CIBA 02.12.76 CIBA GEIGY CORP A60 D25 E16 F06 (F09) = US 4239-  
 915
- Bis:per:fluoroalkyl gp.-contg. carboxylic acid surfactant - 42487A/24
- CIBA 11.05.77 CIBA GEIGY AG B05 D21 E14 = GB 1582-420  
 2-Phenylamino phenyl acetyl amide(s) - 82116A/46
- CIBA 11.04.79 CIBA GEIGY AG A60 D25 E24 F06 = J5 5143-940  
 Di:steryl-bi:phenyl derivs. contg. amino or ammonium gps. - 90527C/51
- CIBA 13.07.79 CIBA GEIGY AG B04 D16 = WP 8002-848  
 Cultures of Myxococcus fulvus and its extracts - 00129D/01
- \*CIBA 27.06.79 CIBA GEIGY AG B03 D22 \*PT --71-433  
 4-Oxa 6-aza 6-phenyl spiro (2.4) heptano-5,7 diones prepn. - D/02
- CIGA 08.12.75 CIGARETTE COMPONENT LTD A88 D18 (A17) = AT  
 7609-074
- Filter tips for tobacco smoke - 69284Y/39
- CNRS 29.06.76 INST NAT SANTE RECH MED B04 C03 D16 = GB 1582-  
 294
- Antischistosomal immunological agent - 75958Y/43
- \*COKE 04.12.78 COCA-COLA CO D15 \*US 4240-267  
 Beverage carbonation with liquid carbon di:oxide supply - 01666D/02
- \*COLG 22.03.71 COLGATE PALMOLIVE CO A96 B05 D21 (B06) \*US 4241-  
 049
- Stabilisation of antibacterial dentifrice - 01836D/02
- COLG 15.12.75 COLGATE PALMOLIVE CO D25 E13 F06 (D21 D22 E37)  
 = CA 1090-505
- Bleaching compsn. contg. peroxy cpd. activator and zeolite cpd. -  
 27225Y/16
- COLG 30.06.76 COLGATE PALMOLIVE CO D21 E34 (E24) = CA 1090-706  
 Sodium bi:carbonate-contg. mouth-wash compsn. - 05991B/03
- COLG 19.08.76 COLGATE PALMOLIVE CO A96 D22 = GB 1582-475  
 Absorbent pad for use as disposable napkin, sanitary towel etc. -  
 02136A/02



## COLG

- COLG 08.06.79 COLGATE PALMOLIVE CO A96 B05 D21 (A14 B04) #NL 7904-545  
Magnesium poly carboxylate complex anti-tartar compsns. - 79129B/44
- COLG 24.08.79 COLGATE PALMOLIVE CO B05 D21 E11 = BE-884-896  
Oral compn. contg. water, antibacterial and anti-plaque agent - 73370C/41
- CONV- 18.12.78 CONVIRON INC D16 = US 4241-186  
Prodn. of nutrient substrates contg. low methoxy pectin - 48398C/28
- \*COOP- 11.06.79 COOP CENT PROD ACUC D16 J01 \*BR 7903-741  
Evaporative condenser for use in alcohol vapour distn. system - D/02
- CORG 01.06.79 CORNING GLASS WORKS D15 = GB 2050-337  
Appts. for biological processing of organic wastes - 90384C/51
- CORP 12.01.78 CPC INTERNATIONAL INC D17 E13 (D16) = AT 7900-010  
Preparing high purity maltose crystals from starch hydrolysate - 52537B/29
- COUE 14.08.78 COULTER ELECTRONICS INC B04 D16 S03 S05 = US 4241-179  
Transaminase determ. in biological fluids - 14730C/09
- CUMB 17.12.76 CUMBERLAND PACKING B03 D13 E13 (B02) = IL --53-495  
Neohesperidine or naringin di:hydro-chalcone sweetening compsns. - 42126A/23
- CUTT 15.05.79 CUTTER LABS B04 D16 = NO 8001-443  
Cultivating influenza virus for vaccine prodn. - 86753C/49
- \*DAIK 27.04.79 DAIKIN KOGYO KK D25 \*J5 5144-100  
Cleaner comprises halogen free organic solvent and fluorinated alcohol - 01108D/02
- DAME/ 23.08.71 DAMESAR H A D13 E17 (D12) = J8 0048-790  
Preserving food - 42562U/30
- DECI- 15.03.79 DEC INT INC D13 = FR 2451-157  
Mixer pan for completing cheese processing - 70021C/40
- DEGS 16.02.73 DEUTSCHE GOLD & SILBER C03 D13 #US 4241-085  
N-acylmethionine feed additives - 46773U/33
- DENT- 03.05.79 DENTAL THERAPEUTICS D21 = SE 7903-856  
Plaque-dissolving tooth-paste - 86329C/48
- DERV= 13.03.79 DERVENEV CHEM WKS D22 E21 F06 = FR 2451-388  
Reactive azo dyes with antimicrobial activity - 70047C/40
- DERV= 13.03.79 DERVENEV CHEM WKS D22 E21 F06 = J5 5144-055  
Reactive azo dyes with antimicrobial activity - 70047C/40
- \*DESP 29.06.78 DESOTO INC D22 E33 G02 \*US 4239-541  
Mildew sealing coating compsn. - 01463D/02
- \*DORI- 24.08.79 DORIS-COSMETIC EBER D21 \*AT 7905-695  
Cosmetics prods. mfr. - D/02
- DOWA 14.12.77 DOWA MINING KK D15 J01 M25 = US 4241-039  
Removal of arsenic from solns. of sulphuric acid - 29781B/16
- DOWC 30.04.79 DOW CHEMICAL CO D17 E36 = BR 8002-693  
Recovery of hydrochloric acid from a cellulose hydrolysate - 82991C/47
- DOWO 12.03.79 DOW CORNING CORP D22 E19 = FR 2451-196  
Modifying surfaces to reduce microorganisms in the environment - 62273C/36
- DOWO 07.06.79 DOW CORNING CORP A96 D21 = GB 2050-162  
Anti-perspirant emulsion compsn. - 34603C/20
- DOWO 07.06.79 DOW CORNING CORP A96 D21 = GB 2050-163  
Antiperspirant stick compsn. contg. astringent soln. - 34604C/20
- DOWO 07.06.79 DOW CORNING CORP A96 D21 = NL 7907-236  
Anti-perspirant emulsion compsn. - 34603C/20
- DOWO 07.06.79 DOW CORNING CORP A96 D21 = NL 7907-374  
Antiperspirant stick compsn. contg. astringent soln. - 34604C/20
- DYNL 18.11.76 DYNAPOL A97 D13 E24 = IL --53-361  
Increasing solubility of polymeric dyes contg. amino gps. - 23389A/13
- DYNL 17.12.76 DYNAPOL A97 B07 D13 E22 (A96 D21) = IL --53-590  
Red anthraquinone dyes - 30266A/17
- EBAI 25.02.74 EBARA INFILCO KK D15 = J5 0115-680  
Desalting device for liq. contg. suspended solids etc. - 01187D/02
- \*EBAI 25.02.74 EBARA INFILCO KK D15 \*J8 0048-847  
Desalting device for liq. contg. suspended solids etc. - 01187D/02
- EBAI 29.08.74 EBARA INFILCO KK D15 = J8 0048-871  
Phosphate removal from waste liqs. - 29218X/16
- \*EDMO/ 28.09.79 EDMONDSON EL D15 \*US 4240-906  
Compsns. for clarifying liq. media esp. aquaria - 01766D/02
- \*EDWA/ 09.02.78 EDWARDS R A96 B04 D21 (A25) \*US 4239-781  
Topical application of poly:alkylene glycol - 01574D/02
- ELEX 26.01.76 ELECTROLUX AB D22 = US 4239-730  
Autoclave sterilization system - 54396Y/31
- ELIL 04.02.76 ELI LILLY & CO B04 C03 D16 (D13) = CA 1090-728  
Antibiotic A-7413 and its components and derivs. - 54099Y/31
- ELIL 08.06.79 ELI LILLY & CO B02 C02 D16 = GB 2050-385  
Factor H of antifungal antibiotic A-30912 and its homologues - 90141C/51
- ELIL 08.06.79 ELI LILLY & CO B02 C02 D16 = PT --71-349  
Antibiotic A-42355 obtd. by cultivation of *aspergillus nidulans* - 90140C/51
- ELIL 08.06.79 ELI LILLY & CO B02 C02 D16 = PT --71-350  
Factor H of antifungal antibiotic A-30912 and its homologues - 90141C/51
- \*ELRO 10.08.79 ELKEM-SPIGERVERKET D12 \*BE-884-704  
Butchers powered tool for cleaving meat carcass - 00783D/02
- ENTR- 16.03.79 ENTREMONT SA D13 = FR 2451-158  
Cheese roll cleaning device - 68066C/39
- \*EPID= 30.03.78 EPIDEMIOLOGY MICROBIOL D12 \*SU-733-603  
Removal of blood from slaughtered animals - 01318D/02
- \*ESSO 14.04.78 EXXON RES & ENG CO D16 E17 \*US 4241-184  
Methyl ketone(s) prepn. from 3-6C sec. alcohol(s) - 01901D/02
- ETHI 08.12.78 ETHICON INC A96 D22 F01 (A23 A25) = PT --70-564  
Surgical suture material - 45926C/26
- \*ETHY 26.02.79 ETHYL CORP D23 E17 \*US 4240-985  
Prepn. of alkyl-substd.-aldehyde(s) - 01804D/02
- FANT/ 06.12.76 FANTA G F A14 B04 D15 (D16) = IL --53-538  
Saponified graft copolymers used for aq. liq. adsorbents - 26985A/11
- FARB 09.09.76 BAYER AG D15 = CA 1090-538  
Treating waste water contg. organic matter by oxidn. - 19659A/11
- FARB 23.12.76 BAYER AG B04 C03 D16 = AT 7709-183  
Glucoside hydrolase inhibitors prodn. from bacteria - 45809A/26
- FARB 11.04.78 BAYER AG B04 D16 J04 S03 (B05 S05) = US 4239-902  
N-Carboxy:acyl amino acid ester derivs. - 75673B/42
- \*FARE= 25.10.77 FARE DALTEKHRYBRO D12 \*SU-733-607  
Fish orienting mechanism - 01322D/02
- FARH 07.10.76 HOECHST AG D25 E11 = AT 7707-104  
Rinsing product for washing machines - 26934A/15
- FARH 23.10.76 HOECHST AG D21 E33 = CA 1090-531  
Stabilisation of di-calcium phosphate di-hydrate - 30240A/17
- FARH 14.04.78 HOECHST AG D25 E16 = US 4240-980  
Colourless tetra:acetyl-ethylene di:amine prepn. - 79391B/44
- FARH 19.06.78 HOECHST AG C02 D22 E13 F09 = US 4239-525  
3-(1,2,4-Triazolyl)-cinnamic and crotonic acid derivs. - 01804C/02
- FARH 24.04.79 HOECHST AG B02 D16 (B04) = J5 5143-994  
Cephalosporin derivs. with chromophore substit. at 3-position - 79272C/45
- FARM- 27.03.79 FARMATIS SPA D22 E14 #US 4239-920  
Antibacterial 6-iso-bornyl-3,4-xyleneol prepn. - 84723B/47
- \*FATS= 13.09.77 FATS RES INST D13 \*SU-733-722  
Soya bean sepn. from impurities - 01347D/02
- FEDE- 07.05.79 FEDERAL PAPER BOARD D11 = DK 8001-995  
Pastry box container - 84771C/48
- FEDE- 07.05.79 FEDERAL PAPER BOARD D11 = SE 8003-379  
Pastry box container - 84771C/48
- FILT 10.02.78 FILTERS INT INC A91 D15 #CA 1090-925  
Water purificn., esp. of sewage - 36436A/20
- \*FINE- 05.03.79 FINETEX INC D25 E16 (D21) \*US 4239-631  
Cationic surfactant compsns. compatible with anionic surfactants - 01511D/02
- FIRM 02.08.74 FIRMENICH SA B07 C03 D23 E13 (D13) = J8 0048-778  
Synthetic organoleptic oxathi(ol)anes - 13411X/08
- FISC/ 23.10.78 FISCHER K O P D17 H03 J01 (H06) = US 4240-800  
Absorbents for oil comprising cellulosic fibres - 40962B/22
- FISK- 03.05.79 FISKERITEKNOLOGISK D12 = SE 8003-070  
Removal of fat, intestines etc. from fish - 84727C/48
- \*FIVE 13.03.79 FIVES-CAIL BABCOCK D17 J01 \*FR 2451-225  
Continuous centrifugation plant - 00844D/02
- FLAN/ 18.07.77 FLANAGAN J J A97 D13 E16 (A25 E14) #CA 1090-671  
Hard surface cleaning detergent concentrate - 03972A/02
- \*FLUI- 30.11.77 FLUID POWER RES INC D15 E36 \*US 4239-621  
Water treatment to remove hardness and sulphur cpds. - 01505D/02
- FMCC 21.12.77 FMC CORP D15 #CA 1090-926  
Eliminating cyanurate cpds. from waste water - 56782A/32
- \*FOLE/ 20.06.79 FOLEY W M A96 D22 (A14) \*WP 8002-840  
Contact lens polymer contg. chemically bonded asepticising agent - 02004D/02
- \*FOOD= 15.12.77 FOOD IND CORRESP D13 (D11) \*SU-733-600  
Charger for confectionery and bread baking ovens - 01317D/02
- \*FOSS- 08.04.77 FOSS ELEC A/S D13 J04 S03 X25 \*US 4239-394  
Liq. analyser for determining fat content of milk - 01426D/02
- \*FOUR/ 13.03.79 FOURCINE A D22 \*FR 2451-159  
Absorbent granules used as litter for domestic animals - 00833D/02
- FROM 05.12.75 FROMAGERIES BEL SA D13 = US 4239-784  
Textured milk protein prod. - 39849Y/23
- \*FUJI- 27.04.79 FUJINAGA SEIYAKU KK D21 \*J5 5143-907  
Skin cosmetic contg. mineral, animal or vegetable tar - 01009D/02
- \*GALI/ 31.01.79 GALIN M A A96 B04 D22 \*US 4240-163  
Intra/ocular lens coated with medicament - 01660D/02
- \*GASC 12.12.75 BRITISH GAS CORP D15 J04 S03 \*GB 1582-228  
Appts. for continuous colorimetric analysis - 00863D/02
- GBFE- 08.04.74 GB FERMENTATION IND D13 (D16) = AT 7707-157  
Lipolytic enzyme system from *Mucor miehei* - 58739W/36
- GDAN 22.04.76 GDANSKA POLITECH B05 C03 D16 = GB 1582-378  
(N)-Glucosyl derivs. of polyene macrolide antibiotics - 59473Y/34



- 26.10.79 GENERAL FOODS CORP D13 \*US 4241-092  
 asified candy confection - 01854D/02  
 O= 03.04.78 GEOR FOOD IND RES D13 J02 \*SU -733-707  
 od or perfume rotary mixer - 01345D/02  
 A-09.05.79 GIZA SPA C04 D16 E17 H06 (D15) = BR 8002-824  
 methane and fertiliser sludge produced from animal farm effluent -  
 7764C/39  
 A-09.05.79 GIZA SPA C04 D16 E17 H06 (D15) = BR 8002-841  
 methane and agricultural fertiliser sludge prodn. - 67763C/39  
 A-09.05.79 GIZA SPA C04 D16 E17 H06 (D15) = DK 8001-707  
 methane and agricultural fertiliser sludge prodn. - 67763C/39  
 A-09.05.79 GIZA SPA C04 D16 E17 H06 (D15) = DK 8001-708  
 methane and fertiliser sludge produced from animal farm effluent -  
 7764C/39  
 A-09.05.79 GIZA SPA C04 D16 E17 H06 (D15) = GB 2050-339  
 methane and fertiliser sludge produced from animal farm effluent -  
 7764C/39  
 A-09.05.79 GIZA SPA C04 D16 E17 H06 (D15) = SE 8003-430  
 methane and agricultural fertiliser sludge prodn. - 67763C/39  
 A-09.05.79 GIZA SPA C04 D16 E17 H06 (D15) = SE 8003-431  
 methane and fertiliser sludge produced from animal farm effluent -  
 7764C/39  
 Z/09.11.77 GLEZIN V I D15 \*SU -733-704  
 suspensions and effluents clarifier - 01342D/02  
 R/14.03.79 GLORIEUX G D22 S05 \*FR 2451-195  
 immersed electrodes steriliser for contact lenses etc. - 00839D/02  
 R 12.12.77 GOODRICH B F CO D15 = CA 1090-722  
 lining for a concrete conduit carrying sea water - 45912B/25  
 DL= 31.01.78 GEOR POLY D13 \*SU -733-615  
 processing green leaf tea - 01329D/02  
 AI 30.04.79 GRAIN PROCESSING CORP D17 \*US 4241-183  
 liquefaction of high solids starch pastes - 01900D/02  
 AI= 23.12.77 GRAIN PRODS RES D11 \*SU -733-599  
 laboratory dough mixer - 01316D/02  
 AI= 30.12.77 GRAIN PRODS RES D13 \*SU -733-723  
 pearl barley production - 01348D/02  
 EA-23.02.79 GREAT WESTERN SUGAR D16 \*US 4241-185  
 stabilisation of mycelial alpha-glactosidase - 01902D/02  
 OF/08.06.79 GROFF R F D22 \*WP 8002-644  
 pasteurising respiratory therapeutic equipment - 01944D/02  
 OG 23.05.78 GYOGYSZERKUTATO INT B04 D16 = AT 7903-572  
 Nebamycin antibiotic complex microbiological prodn. - 87983B/49  
 GE-17.04.70 HAGER & ELSASSER D15 J01 = J8 0048-863  
 on exchange water treatment - 00311T/01  
 GG/23.09.76 HAGGAR A96 D22 = GB 1582-310  
 rubber tape for lining plaster casts - 08372A/05  
 WK 24.05.78 HAWKER SIDDELEY WAT D15 \*GB 1582-520  
 sewage and industrial waste waters aeration - 00883D/02  
 WG/12.10.78 HENGSTENBERG E D13 = US 4238-997  
 horizontal rotary drum blanching appts. for hot brining sauerkraut -  
 2937C/08  
 HK 29.04.76 HENKEL KG AUF AKTIEN A97 D25 = AT 7703-014  
 liquid scouring type cleaning compsn. - 77549Y/44  
 HK 23.06.77 HENKEL KG AUF AKTIEN D21 E19 = AT 7804-550  
 skin protection against longer wavelength UV - 01875B/02  
 HK 23.06.77 HENKEL KG AUF AKTIEN D21 E13 = AT 7804-551  
 skin protection against longer wavelength UV - 01874B/02  
 HK 20.01.78 HENKEL KG AUF AKTIEN B03 C03 D13 (C02) = US 4239-  
 animal feed mixt. for poultry, pigs, etc. - 56404B/31  
 HK 05.05.79 HENKEL KG AUF AKTIEN D23 E13 = BR 8002-710  
 Alkyl-4,6-di-oxa-tri:cyclo-dodecene derivs. - 82775C/47  
 HK 07.05.79 HENKEL KG AUF AKTIEN A97 D25 E19 F06 = BR 8002-781  
 fabric-softening detergent powders - 86448C/49  
 HK 07.05.79 HENKEL KG AUF AKTIEN A97 D25 E19 (A25) = BR 8002-  
 ne textile detergent having softening activity - 82995C/47  
 C 25.03.76 HERCULES INC A14 C03 D22 = CA 1090-553  
 crosslinked (co)polyacrylamide absorbents - 61225Y/35  
 C 06.06.79 HERCULES INC A11 D25 (A97) \*NL 8003-241  
 cellulose ether with long-chain hydrocarbon substit. - 01233D/02  
 R/24.01.78 HERRING M T A D14 S02 = US 4238-998  
 portioning compressible viscous material, e.g. dough in extruder -  
 3456B/32  
 -10.03.76 HILGERS UMWELT GMBH D15 = FR 2451-345  
 treating badly polluted water by disinfection and flocculation -  
 5001Y/37  
 06.02.78 HITACHI METAL KK D21 L03 M26 V02 (X12 X24) = US 4239-  
 palladium contg. magnetic alloy - 60129B/33  
 09.03.77 HITACHI CONSTRUCT MACH D15 = J5 3110-173  
 device for filtering waste water - 00450D/01  
 -08.05.79 HORMEL G A & CO D12 #DK 7901-886  
 animal carcass skinning machine - 84576C/48  
 F 30.11.75 HOFFMANN-LA ROCHE LTD C03 D13 = CA 1090-648  
 laminising animal feedstuffs - 40305Y/23  
 \*HOLM/ 26.01.78 HOLMAN D G D22 \*US 4239-492  
 Prepn. of umbilical cord for implantation into human body - 01435D/02  
 \*HOLM/ 26.01.78 HOLMAN D G A96 D22 \*US 4240-794  
 Conforming human umbilical cord to predetermined configuration -  
 01717D/02  
 IDEK 25.12.76 IDEMITSU INDS KK C03 D22 E15 = J8 0049-098  
 Sublimable compsn. for slow release of perfume, insecticide etc. -  
 61146A/34  
 IDEK 25.12.76 IDEMITSU IND KK C03 D22 E15 = J8 0049-099  
 Sublimable compsn. used as carrier for perfume or insecticide -  
 61147A/34  
 \*INFL 04.02.75 INT FLAVORS & FRAGR INC D18 E13 \*US 4240-447  
 Smoking tobacco compsns - 01689D/02  
 INFL 12.04.76 INT FLAVORS & FRAGR INC D13 E13 (D18 D21) = GB  
 1582-459  
 2-Alkyl-4-phenyl-di:hydro:pyran derivs. - 13743A/07  
 \*INFL 10.08.78 INT FLAVORS & FRAGR INC D23 E15 (D21 D25) \*US 4241-  
 228  
 Alkyl-3-cyclopentenyl:alkenyl cyclopentanol and cyclohexanol cpds. -  
 01926D/02  
 \*INFL 13.09.79 INT FLAVORS & FRAGR INC D13 E13 \*US 4241-097  
 Flavouring foodstuffs with coumarin substitutes - 01859D/02  
 \*INFL 17.10.79 INT FLAVORS & FRAGR INC D13 E17 \*US 4241-098  
 Flavouring foodstuffs with hexenol oxidn. prod. - 01860D/02  
 INSP 29.06.76 INST PASTEUR B04 C03 D16 = GB 1582-294  
 Antischistosomal immunological agent - 75958Y/43  
 INTE- 27.05.77 INTEROX CHEM LTD D15 E16 (E36) = US 4239-622  
 Disinfecting water esp. domestic and drinking water - 86113A/48  
 \*INTM 21.05.79 INT MINERALS & CHEM CORP B02 C02 D13 \*US 4241-  
 061  
 2-Oxazolidinyl-quinoxaline-1,4-di:oxide derivs. - 01840D/02  
 INTM 30.05.79 INT MINERALS & CHEM CORP B02 C02 D13 = GB 2050-  
 374  
 Animal growth promoter zearalin derivs. - 88682C/50  
 INTM 30.05.79 INT MINERALS & CHEM CORP B02 C02 D13 = US 4239-  
 772  
 Animal growth promoter zearalin derivs. - 88682C/50  
 \*INTT 17.05.76 INT TELEPH & TELEG CORP D11 \*US 4239-783  
 Redn. of mixing time of yeast leavened bread doughs - 01576D/02  
 ISHI- 13.03.79 ISHIGAKI SHOKUHI D13 = FR 2451-166  
 Stable compsn. contg. dried coffee, cream and sweetener - 70055C/40  
 \*ISRA 15.07.77 ISRAEL MIN AGRICULT D22 T06 X25 \*IL --52-536  
 Vapour generator, e.g. for vaporising pesticides - D/02  
 ITAF 08.05.79 ITALFARMACO B04 D16 = SE 8003-488  
 Reactor for enzyme reactions - 65987C/38  
 \*IVAN= 29.05.79 IVANOV CHEM TECHN A14 D15 \*WP 8002-688  
 Prodn. of acrylic polymers by radical polymerisation - 01960D/02  
 JACK/ 04.05.77 JACKSON J F D15 J01 = US 4240-578  
 Solid bowl centrifuge with differential speed screw - 84401A/47  
 JOHN- 18.06.79 JOHNSTON LABS INC D16 J04 S03 (S05) = WP 8002-  
 849  
 Electrical detection of bacteria - 77096C/44  
 JOHS 29.11.78 JOHNSON S C & SONS INC D25 E12 = US 4240-919  
 Stable liq. abrasive scouring compsn. - 41937C/24  
 JONS/ 31.10.77 JONSSON U R S B04 D16 S03 S05 = GB 2050-386  
 Prodn. of a stable prepn. having immunoglobulin binding properties -  
 40601B/21  
 \*JULI/ 16.03.79 JULIEN M D11 \*FR 2451-165  
 Bakery proving chamber with bucket conveyor for dough lumps -  
 00835D/02  
 JUTI/ 07.06.77 JUTILA P D15 J04 T06 = US 4239-493  
 Control of pH in continuous flow using hydrogen ion evaluation -  
 00282B/01  
 KALT- 24.04.79 KALTENBACH & VOIGT D22 = J5 5143-906  
 Sprayable medical or dental instrument sterilising mixt. - 79057C/45  
 KAOS 14.05.74 KAO SOAP KK D15 E36 = J8 0048-872  
 Hydrogen sulphide removal from waste water - 13174A/07  
 \*KAOS 27.04.79 KAO SOAP KK A97 D25 E12 (A25 E16) \*J5 5144-099  
 Detergent compsn. contg. alkyl:ether fatty acid and ammonium salts -  
 01107D/02  
 KART- 31.03.76 KARTRIDGE PAK CO D12 = GB 1582-542  
 Meat recovery from bones using a pressurising auger - 60886Y/34  
 KART- 31.03.76 KARTRIDGE PAK CO D12 = GB 1582-543  
 Meat recovery from bones using a pressurising auger - 60886Y/34  
 \*KDFO= 31.08.77 KRASD FOOD IND RES D18 \*SU -733-629  
 Tobacco-leaves single stage pressing equipment - 01335D/02  
 \*KDPO= 17.12.76 KRASD POLY D18 \*SU -733-630  
 Guillotine type pressed tobacco leaves cutter - 01336D/02  
 \*KEAR/ 30.01.77 KEARNEY J A A96 D22 \*GB 1582-450  
 One piece polypropylene finger joint prosthesis - 00879D/02  
 KIBU- 21.07.75 KIBUN CO D13 = US 4241-100  
 Soybean milk prodn. without beany flavour or bitterness - 54986B/30  
 KIKK 30.03.73 KIKKOMAN CORP B02 D16 = J8 0048-793  
 Synthesis of cyclic adenlic acid - 26543W/16  
 KIKK 18.06.73 KIKKOMAN CORP B02 D16 = J8 0048-794  
 Cyclic uridylic acid - 45146W/27



- KIOR = 01.03.78 KIEV ORGPISHCHEPROM D11 \*SU-733-597  
Bread-baking oven with uniform heating of movable mesh bottom - 01314D/02
- \*KISE/ 29.05.79 KISELNIKOV V N A14 D15 \*WP 8002-688  
Prodn. of acrylic polymers by radical polymerisation - 01960D/02
- \*KOLL/ 30.06.79 KOLLROSS G D12 V04 X25 \*PT --71-466  
Terminal mfr. from pressed worm-shaped sleeve material - D/02
- KONN 11.05.79 GIST BROCADES NV B04 D16 = DK 8001-912  
Plasmid conferring resistance to Streptomycin and Neomycin - 90824C 51
- KOPP- 23.05.79 KOPPENS MACH BV D13 = GB 2050-237  
Moulding croquettes - 88609C/50
- KOWA/ 15.05.79 KOWALSKY H D13 = GB 2050-142  
Natural laxative products - 69827C/40
- \*KRFT 15.08.79 KRAFT INC D13 \*BE-884-818  
Cream based soft textured cheese prodn. - 00788D/02
- KRUN 25.11.76 KRAFTWERK UNION AG D15 J03 K05 L02 = IL --53-317  
Sea water desalination plant - 40600A/23
- \*KULA/ 05.04.77 KULAKOV V K D14 \*SU-733-627  
Root vegetables washer - 01333D/02
- KULZ 02.06.77 KULZER GMBH A96 D22 L02 (A14) = US 4239-113  
Material for prepn. of bone cement - 72816A/41
- KURE 16.01.74 KUREHA CHEM IND KK D12 E19 = J5 0100-258  
Processed fish or animal meat prepn. - 01182D/02
- \*KURE 16.01.74 KUREHA CHEM IND KK D12 E19 \*J8 0048-783  
Processed fish or animal meat prepn. - 01182D/02
- KURS 26.04.79 KURARAY KK A97 D22 G04 (A14 A17 A96) = J5 5144-044  
Aq. gel used as perfume release- or cold retention material - 79157C/45
- KYOW 03.03.78 KYOWA HAKKO KOGYO B03 D16 E13 (D22) = US 4241-182  
Antibacterial fortimicin KG derivs. - 66600B/37
- \*KYUK 04.12.78 KYUSHU SEKISUI IND D15 \*J5 5075-710  
Industrial waste waters filter - 00953D/02
- LARS/ 08.05.79 LARSSON V K A96 D21 = SE 7904-028  
Skin-protective coating formation system - 84765C/48
- LEGR/ 14.03.79 LEGRAIN M D14 S02 T06 = FR 2451-570  
Mixing plant for liq. feed for teat fed mammals - 72054C/41
- \*LEMO/ 12.06.78 LEMOINE K D D15 J01 \*US 4239-601  
Distillation appts. with volatile pollutant removal - 01494D/02
- LEPE 05.03.75 GRUPPO LEPETIT SPA B04 D16 = US 4239-751  
Teichomycins A, and A2 prepn. from Actinoplanes teichomyceticus - 72165X/39
- \*LEZH 20.11.78 LENINGRAD ZHDANOV UNIV C03 D13 E17 F01 \*SU-733-592  
Silkworm productivity enhancement with chemical stimulants - 01313D/02
- \*LIFE- 21.12.78 LIFE SAVERS INC A97 D13 \*US 4241-090  
Non-adhesive, high cud volume chewing gums - 01852D/02
- \*LIFE- 21.12.78 LIFE SAVERS INC A97 D13 \*US 4241-091  
Non-adhesive, high cud vol. chewing gum - 01853D/02
- LIOY 17.02.78 LION FAT & OIL KK A97 D25 E19 (A25 E33) = US 4239-662  
Liq. cleaning compsn. e.g. for heavy duty cleaning - 64914B/36
- \*MAGE- 06.06.79 MAGEVO BV D14 J01 \*NL 7904-454  
Washing plant for fumes from foodstuff smoking - 01228D/02
- \*MAGN- 24.03.77 MAGNA CORP D25 E11 H01 M14 \*US 4239-695  
Amino phosphonic acid prodn. from nitrile cpds. - 01539D/02
- MANN- 11.05.79 MANN & SCHRODER KG B05 D12 E16 (E36) = GB 2050-410  
Effervescent bath salts - 65994C/38
- \*MARI/ 13.06.79 MARIA G R A96 D21 \*BR 7903-845  
Assembly for acrylation - D/02
- MASO/ 04.08.77 MASON S I D22 J01 #CA 1090-738  
Device for dispensing volatile material e.g. insecticide or deodorant - 16139B/09
- MATJ 16.06.76 MATSUSHITA REIKI KK D15 = J5 2154-578  
Device for carbonated drinking water prodn. - 00452D/01
- \*MATT- 28.06.79 MATTHEWS B LTD D12 \*PT --71-467  
Mfg. foodstuffs with solid interior and cover - D/02
- \*MAUR- 04.06.79 MAURI BROS & THOMSO D16 \*WP 8002-695  
Edible dyes with brown to black colour - 01964D/02
- MAYR/ 01.04.77 MAYR A B04 C03 D16 = IL --54-370  
Compsn. for treatment of Herpes zoster - 55129A/31
- \*MAZN 27.04.79 MARUZEN OIL KK B05 D13 E17 \*J5 5143-920  
Liq. branched chain satd. higher aliphatic poly:ol - 01015D/02
- \*MEAT= 06.02.78 MEAT IND RES INST D12 \*SU-733-604  
Conveying, grouping and loading equipment for sausage-like items - 01319D/02
- MEDL- 04.05.79 MEDLINE AB A96 D22 = SE 7903-886  
Device for closing body passages, esp. for use as contraceptive - 90094C/50
- MEIJ 05.06.74 MEIJI CONFECTIONARY B02 D16 = J8 0048-800  
Antibiotic cephamycin prodn. - 22377A/12
- METG 05.05.76 METALLGESELLSCHAFT AG D15 J01 = US 4241-227  
Reducing BOD of gas condensates contg. phenols and tar bases - 84875Y/48
- METG 03.10.77 METALLGESELLSCHAFT AG D15 E35 H09 (E14) = US 4240-808  
Processing waste waters from coal degasification or gasification - 28060B/15
- MEYE- 14.05.79 MASCH MEYER AG A88 D15 J01 K07 = GB 2050-182  
Radioactive waste filtration process - 86565C/49
- MILE 22.12.75 MILES LABORATORIES INC D13 E16 = CA 1090-651  
Glycinamide salt food seasoning compsns. - 29162Y/17
- MILE 12.03.79 MILES LABORATORIES INC D13 = FR 2451-167  
Prodn. of casein with low cholesterol content - 43324C/25
- \*MINN 02.05.79 MINNESOTA MINING CO B04 D16 \*US 4241-181  
Broth for detecting deoxyribonuclease positive microorganism - 01899D/02
- MITO 29.03.77 MITSUBISHI HEAVY IND KK D15 = J5 3119-473  
Filter press for treating waste water - 00451D/01
- MITQ 21.00.74 MITSUBISHI ELECTRIC CORP D15 = J5 0091-950  
Appts. for agglomerating insol. material in waste water - 00447D/01
- MITR 17.05.73 MITSUBISHI RAYON KK A88 D15 J01 = J8 0048-842  
Semipermeable membranes of acrylonitrile polymer - 46736W/28
- MITR 13.04.78 MITSUBISHI RAYON KK D22 F04 = US 4241-007  
Water-absorbent fabric product - 79296B/44
- \*MITR/ 28.12.77 MITROV O L D14 \*SU-733-625  
Conserve cans unloader and orienter - 01331D/02
- MOBI 16.04.79 MOBIL OIL CORP D15 H05 J01 M11 = US 4239-620  
Complex metal cyanide removal from industrial effluent - 81145C/46
- \*MOGI= 29.12.77 MOGIL TECHN INST D14 \*SU-733-613  
Liq. food products steriliser - 01327D/02
- \*MOLI- 15.03.79 MOLINIER SA D22 F04 \*FR 2451-412  
Extensible knitted bandage - 00854D/02
- \*MOMD 14.11.77 MOSCOW MEAT DAIRY INST D12 \*SU-733-609  
Sausage-like articles heat-treating equipment - 01324D/02
- \*MOME= 30.03.78 MOSC MEAT IND MFG D12 \*SU-733-603  
Removal of blood from slaughtered animals - 01318D/02
- MRSC 10.10.77 MARS LTD D13 (D12) = AT 7807-274  
Reducing odour of fish-based food prods. - 27884B/15
- \*MURM= 06.07.77 MURMANSK GIPRORYBFL D12 \*SU-733-606  
Fishing boats fish catch receiver - 01321D/02
- \*MURM= 19.12.77 MURMANSK GIPRORYBFL D12 \*SU-733-608  
Fish-roe extractor using centrifugal force - 01323D/02
- \*MURM= 05.01.78 MURMANSK GIPRORYBFL D14 \*SU-733-610  
Frozen food blocks loader for glazing machine - 01325D/02
- \*MURM= 20.02.78 MURMANSK GIPRORYBFL D12 \*SU-733-611  
Fish batcher for small fish blocks freezer - 01326D/02
- \*NAKA- 04.12.78 NAKANO VINEGAR KK D14 \*US 4241-095  
Preventing spoilage of food, esp. soy sauce - 01857D/02
- NATT 12.03.79 NAT STARCH & CHEM CORP D13 = FR 2451-223  
Pulverising fat-contg. foodstuff to free-flowing powder - 67991C/39
- \*NENG- 18.07.79 NORTHERN ENG IND LT D15 J01 \*GB 2050-192  
Deionisation of boiler condensate water - 00898D/02
- NICA 28.10.78 NIPPON CARBIDE KOGY KK A97 D16 E13 (D13) = BR 7903-860  
Cultivation of algae - 34956C/20
- NIJH- 10.05.79 MACH FAB NIJHUIS G D12 = DK 8002-028  
Conveyor in abattoir stunning machine - 85614C/48
- NIJH- 10.05.79 MACH FAB NIJHUIS G D12 X25 = DK 8002-029  
Electrical stunning machine for beasts, to be slaughtered - 85616C/48
- NIJH- 10.05.79 MACH FAB NIJHUIS G D12 X25 = DK 8002-030  
Electrical stunning of beasts esp. pigs for slaughter - 85617C/48
- NIJH- 10.05.79 MACH FAB NIJHUIS G D12 X25 = DK 8002-031  
Automatic stunning of animals for slaughter - 85615C/48
- NIKE- 28.02.79 NIKEX NEHEZIPARI KU D15 #US 4240-911  
Filtration and ion exchanging column - 61816B/34
- NIPB 24.10.73 NIPPON BEET SUGAR KK D17 E33 J01 L02 (E36) = J8 0049-011  
Gypsum from lime flue gas - 76406X/41
- NIPK 25.05.73 NIPPON KAYAKU KK D23 = J5 0007-803  
Inhibiting smell of oil or fat during storage - 00421D/01
- NIPK 06.11.73 NIPPON KAYAKU KK D12 E13 (E17) = J5 0071-863  
Colouring of meat - 01181D/02
- \*NIPK 06.11.73 NIPPON KAYAKU KK D12 E13 (E17) \*J8 0048-782  
Colouring of meat - 01181D/02
- NIPQ 04.06.79 DAI NIPPON INSATSU D13 = GB 2050-143  
Semi-processed, room temp. packed storable chip prepn. - 00213D/01
- NIRA 30.05.79 UNITIKA KK D15 = GB 2050-333  
Absorbent for removing heavy metals from soln. - 71632C/41
- NISI 18.05.76 NISSHIN STEEL KK D15 M14 = J8 0048-593  
Chromium plating liq. regeneration - 02886A/02
- NISS 19.09.72 NISSHIN FLOUR MILL KK B04 C03 D16 = J4 9047-163  
Preventing infectious atrophic rhinitis of young pig - 00418D/01
- NITL 18.11.77 NITTO ELECTRIC IND KK A88 D15 J01 (A26) = US 4240-914  
Self-supporting permselective polyimide membrane - 40894B/22
- \*NONB= 07.10.77 NON-BLACK AREA HORT D14 \*SU-733-628  
Fruit sorter working by size - 01334D/02
- \*NOTT/ 10.04.79 NOTTAGE H C A96 D21 \*GB 2050-160  
Protective skin cream compsns. - 00892D/02
- NOUN 28.02.79 NORTHWESTERN UNIV D16 S03 = J5 5143-440  
Sepn. of cells, bacteria or viruses from mixed populations - 71999C/41



- 22.10.76 OAKES E T LTD A31 D14 J02 \*GB 1582-529  
 mixer for mixing food esp. marshmallow or foam plastic - 00886D/02  
 = 05.10.77 ODESS SUPPLY MACH D13 \*SU -733-623  
 e extraction from apples - 01330D/02  
 19.07.76 OKAZAKI KOGYO KK D15 = J5 3012-151  
 ddy water treating appts. - 00448D/01  
 08.11.76 ONTARIO RES FOUND D15 = IL --53-293  
 effluent purification - 38768A/22  
 21.04.76 L'OREAL SA D21 E24 = J8 0049-088  
 Nitro-(4)-hydroxy-ethylamino phenol and ring alkyl derivs. -  
 74Y/43  
 15.03.77 L'OREAL SA A96 D21 = US 4240-450  
 compsn. for treating hair, nails or skin - 67034A/38  
 04.05.79 L'OREAL SA A96 D21 (A14) = GB 2050-393  
 difying cosmetic oils by grafting with specified hydrophilic monomer -  
 39C/47  
 15.05.79 L'OREAL SA D21 = GB 2050-165  
 smetic compsn. for the hair, pref. a shampoo - 84341C/48  
 15.05.79 L'OREAL SA A96 D21 = GB 2050-166  
 smetic compsn. for washing and combing out hair - 84342C/48  
 15.05.79 L'OREAL SA D21 = GB 2050-411  
 smetic compsn. for the hair, pref. a shampoo - 84341C/48  
 18.06.79 L'OREAL SA D21 E24 \*BE -883-864  
 ir colouring compsn. contg. 2,4-di:amino butoxy benzene - 00781D/02  
 30.10.73 ORONZIO DE NORA IMP D15 J03 X25 = SU -733-521  
 ical electrolytic cell battery for water sterilisation - 34542W/21  
 /03.03.80 ORTNER J A D12 \*AT 8001-149  
 at salting device - D/02  
 15.06.72 OSMONICS INC D15 J01 T06 = J4 9052-185  
 ute concentration - 55699U/38  
 15.06.72 OSMONICS INC D15 J01 T06 = J8 0048-846  
 ute concentration - 55699U/38  
 27.02.78 OWENS-ILLINOIS INC D16 J04 L01 \*US 4241-180  
 ferential detection of surfactants on surfaces - 01898D/02  
 01.03.79 PACE I A85 D15 J03 X25 = FR 2451-596  
 ionic water descaler - 46469C/27  
 19.04.79 PAPER MFRS CO A92 D22 = J5 5143-269  
 ckage for sterilised medical prod. - 30879C/17  
 04.06.79 PARKER B J D16 \*WP 8002-695  
 ble dyes with brown to black colour - 01964D/02  
 19.08.76 PEABODY INT CORP D15 = CA 1090-713  
 cast beams for supporting filter bed - 60345A/33  
 21.11.77 PENICILLIN ASSAYS B04 D16 K08 S03 (S05 X25) \*US 4239-  
 id and sensitive detection of antibiotics in liquids - 01564D/02  
 21.11.77 PENICILLIN ASSAYS INC B04 D13 J04 S03 (S05) = US 4239-  
 ection of antibiotics in liquid samples e.g. milk, body fluid -  
 110B/13  
 18.06.79 PQ CORP D15 \*BR 8002-821  
 duction of metallic ion concn. in aq. effluents - D/02  
 02.06.79 PIELKENROOD-VINITEX NV D15 \*GB 2050-185  
 ter etc. purification appts. - 00896D/02  
 1.10.79 PILLSBURY CO D13 \*US 4241-094  
 thod of dehydrating potatoes - 01856D/02  
 26.04.79 POLA KASEI KOGYO KK D21 E15 \*J5 5143-909  
 ald. cosmetic cpd. is stable - 01011D/02  
 28.10.77 POLYPUR FORSALJNING D15 = US 4240-164  
 ator for biological toilet - 39310B/21  
 = 18.01.78 POLT MEAT MACH WKS D12 \*SU -733-605  
 itistage suspension frame for poultry carcasses - 01320D/02  
 05.06.79 PORTA A D15 J01 X25 \*WP 8002-650  
 cn. of aq. sludge, e.g. from waste water treatment - 01946D/02  
 27.09.74 PROCTER & GAMBLE CO D25 E37 = CA 1090-672  
 phosphate dry granular washing agents - 29463X/16  
 09.02.76 PROCTER & GAMBLE CO D25 E16 (E13) = CA 1090-506  
 iculate fabric conditioners for washing powders - 57532Y/33  
 20.03.76 PROCTER & GAMBLE CO A97 D25 E16 F06 = GB 1582-290  
 et impregnated with long chain amine formate - 14038A/08  
 27.08.76 PROCTER & GAMBLE CO D25 E19 F06 = GB 1582-299  
 ole bleach particles - 15920A/09  
 07.01.77 PROCTER & GAMBLE CO D22 F09 = CA 1090-515  
 i cleaning tissue, esp. toilet paper - 49719A/28  
 23.12.77 PROCTER & GAMBLE CO A97 D25 E16 (A25 E14) \*US 4239-  
 ndry detergent compsns. - 01520D/02  
 28.02.78 PROCTER & GAMBLE CO D25 E19 = US 4240-920  
 ergent bleach compsn. effective under dark conditions - 64996B/36  
 29.11.78 PROCTER & GAMBLE CO A96 D22 = US 4239-043  
 er absorbing foamed material for tampons etc. - 88809C/50  
 15.12.78 PROCTER & GAMBLE CO A97 D25 E19 (A26) = US 4239-  
 phosphate or phosphate-free detergent - 46664C/27  
 19.06.79 PROCTER & GAMBLE CO A92 D25 \*US 4239-639  
 sensitive detergent packaged in heat sealed pouch - 01514D/02  
 PROJ- 20.07.76 PROJECTIERUNG CHEM D17 E13 F09 = GB 1582-480  
 Glucose recovery from cellulosic plants - 08656A/05  
 \*PROS- 09.01.79 PROSENBAUER & CO D12 \*AT 7900-156  
 Injection device for meat pickling brine - D/02  
 \*QUAK 31.10.75 QUAKER OATS CO D14 \*US 4240-779  
 Extruded food cutting rotating knife - 01713D/02  
 RALS 01.06.76 RALSTON PURINA CO D13 = CA 1090-649  
 Proteinaceous food product prodn. of good toughness - 17550A/09  
 RALS 29.12.76 RALSTON PURINA CO D13 = CA 1090-647  
 Reduction of combustion prod. residues in dried prods. - 19591A/10  
 \*RAPI- 31.05.79 RAPIDEX LTD B04 D16 K08 S03 \*WP 8002-747  
 Ultra-sensitive enzymatic radioimmunoassay method - 01983D/02  
 \*RAYT 24.01.79 RAYTHEON CO D11 \*US 4240-397  
 Gas-fuelled oven with vent - 01672D/02  
 \*REAP- 25.05.79 LAB DE RECH API B04 D16 E19 (D13) \*GB 2050-418  
 Identifying Salmonella and Serratia species - 00926D/02  
 RECA 25.04.77 RECHERCHES & IND THERAPE B04 C03 D16 = IL --54-390  
 Fowl pest vaccine - 77499Y/44  
 \*RECT/ 21.09.79 RECTOR C W D22 \*US 4240-186  
 Expression former for corpse - 01662D/02  
 \*RESE 18.03.77 RESEARCH CORP A96 B04 D22 \*US 4239-664  
 Antithrombogenic PVP-heparin polymer - 01522D/02  
 RHON 30.12.76 RHONE-POULENC INDUSTRIES D25 E36 = AT 7709-446  
 Silico-aluminate(s) esp. for use in washing powders - 47754A/27  
 RHON 02.11.77 RHONE-POULENC INDUSTRIES A97 D25 (A23 A25)  
 = US 4240-918  
 Anti-soil and anti-redeposition detergent compsn. - 33374B/18  
 RIST/ 12.03.79 RISTO S D15 J01 #FR 2451-210  
 Evaporation of liquids in multi-effect system - 29959B/16  
 RITP 12.02.79 SYBRON CORP A96 D21 E33 = US 4240-832  
 Compsn. for filling teeth - 60771C/35  
 ROHM 13.03.78 ROHM & HAAS CO A18 D22 J04 M25 (D17 S03) = US  
 4240-909  
 Crosslinked boron-contg. resin - 44395A/25  
 ROHM 12.07.78 ROHM & HAAS CO B03 C01 D22 E12 = US 4241-214  
 Metal complexes of 3-isothiazolones - 76318T/48  
 ROQF 16.03.79 ROQUETTE FRERES SA B05 D13 E17 = FR 2451-357  
 Sorbital compressed products e.g. tablets - 70061C/40  
 ROSS/ 16.03.79 ROSSI J C03 D13 = FR 2451-168  
 Neutralisation of alkaline lignocellulose-contg. material - 70028C/40  
 \*ROTH/ 15.11.78 ROTHEN D12 \*US 4239-785  
 Jerky strips mfr. - 01577D/02  
 \*RUGG/ 28.06.79 RUGGERIA D15 \*PT --71-365  
 Sedimentation tank - D/02  
 SALA/ 08.06.79 SALA F D13 T05 = NL 8003-314  
 Indicator of transitory defrosting of frozen food etc. - 73516C/42  
 SANU- 30.09.74 SANUKI ENGYO KK D13 = J8 0049-006  
 Table salt with low potassium content - 37014X/20  
 SANY 11.05.79 SANKYO KK B03 D16 = DK 8000-731  
 Monacoline K prepd. by cultivation of Monascus strains - 69578C/40  
 SCGR 15.02.78 SOC CHIM GRANDE PAROISSE A25 D22 E16 = US 4241-  
 226  
 Prepn. of 2-nitro-2-methyl-propanol from 2-nitro propane - 68495B/38  
 SCHD 16.07.76 SCHERING AG B01 D16 = AT 7705-046  
 Androstan-(17)-one derivs. prodn. by fermentation - 06352A/04  
 SCHM/ 18.01.77 SCHMIDT M D11 = AT 7800-156  
 Waffle filled with honey and corresp. honey depositor - 35000A/20  
 SCHN/ 22.06.78 SCHNELL K D14 = US 4240-591  
 Rotary food mincer with trap for metal foreign bodies - 77233B/43  
 SCMZ 05.06.79 SCM CORP D13 = WP 8002-636  
 Imitation cocoa powder prepd. from fine flour mixt. - 84392C/48  
 \*SCMZ 25.06.79 SCM CORP D13 \*US 4239-786  
 Low fat coffee whitener - 01578D/02  
 \*SCMZ 04.09.79 SCM CORP D23 E13 (E15) \*US 4240-969  
 Inexpensive prepn. of methofuran - 01798D/02  
 \*SEAF= 26.12.77 SEA FISH OCEANOL RES D15 J04 S03 \*SU -732-725  
 Sea-water sampler - 01307D/02  
 SEIK- 00.00.80 ZH SEIKEN-KAI B04 D16 = J5 5143-916  
 Deodorant Lactobacillus strain cultivation - 88537Y/50  
 \*SHAW- 25.07.77 SHAW R A INC D13 \*US 4241-096  
 Coring cauliflower heads - 01858D/02  
 SHEL 01.11.76 SHELL OIL CO D23 E15 = US 4239-923  
 Cyclooctene derivs. contg. opt. esterified tert. hydroxyl gp. - 33794A/19  
 SHIO 06.08.74 SHIONOGI KK B05 C03 D13 E14 (B02 B03) = US 4240-  
 957  
 Aroyl-aryl-substd. dipeptides - 00113X/01  
 SHOW 21.06.73 SHOWA DENKO KK D15 J01 = J8 0048-873  
 Halide ions removal from waste water - 11766X/07  
 \*SING/ 31.08.78 SINGLETON R R A96 D22 \*US 4240-436  
 Vaginal-rectal treatment disposable cold pack - 01686D/02  
 \*SIYA 25.04.79 SANSEI SEIYAKU KK D21 E13 \*J5 5143-908  
 3-Hydroxy:chromone contg. whitening cosmetic - 01010D/02



## SNOW

- SNOW 17.02.73 SNOW BRAND MILK PRODUCTS A97 D13 = J4 9108-267  
Freezable processed egg prod. prepn. - 01180D/02
- \*SNOW 17.02.73 SNOW BRAND MILK PRODUCTS A97 D13 \*J8 0048-775  
Freezable processed egg prod. prepn. - 01180D/02
- \*SOMM/ 05.06.79 SOMMER H D12 \*WP 8002-635  
Meat salting machine - 01940D/02
- STAL 07.11.77 STALEY A E MFG CO D13 = CA 1090-653  
Pasteurised vegetable seed fibre for use in foods - 05140C/03
- STAM 27.06.77 STAMICARBON BV D15 = US 4240-904  
Biological purification of waste water - 02342B/02
- STAM 09.05.79 STAMICARBON BV A41 C04 D15 E16 = BR 8002-794  
Purification of urea-contg. effluent water - 85611C/48
- STAR/ 04.06.79 STARK V D15 = PT -71-346  
Solar distn. appts. esp. for sea water - 09176C/05
- STAU 16.11.70 STAUFFER CHEMICAL CO B05 C03 D22 E14 = J8 0049-043  
22-dibromoacetophenone - 33844T/21
- \*STAU 13.12.76 STAUFFER CHEMICAL CO A97 D25 \*US 4240-921  
Alkaline detergent concentrates for bottle washing - 01771D/02
- STAU 31.05.77 STAUFFER CHEMICAL CO D17 E13 = CA 1090-793  
High purity lactose prodn. - 66818A/37
- \*STBR 29.05.79 STANDARD BRANDS INC D11 \*US 4241-106  
Tortillas which remain flexible on storage - 01866D/02
- STER 18.02.75 STERLING DRUG INC B03 D16 = AT 7901-306  
2,5-Dideoxy-5-(iodo and fluoro)-streptamides - 63309X/33
- \*STRA/ 19.11.79 STRAUBINGER P D14 \*US 4239-175  
Mould for freezing liquid foodstuff - 01412D/02
- SUME 06.07.74 SUMITOMO ELEC IND KK D15 = J5 1005-663  
Appts. for removing PPTES. from sedimentation tank - 01188D/02
- \*SUME 06.07.74 SUMITOMO ELEC IND KK D15 \*J8 0048-850  
Appts. for removing PPTES. from sedimentation tank - 01188D/02
- SUMO 14.10.71 SUMITOMO CHEMICAL KK C02 D16 = J4 8044-415  
Pesticide compns. - 24737U/18
- SUMO 24.04.78 SUMITOMO CHEMICAL KK A96 B04 D16 #US 4239-854  
Carriers for enzyme immobilisation - 80990B/45
- \*SUMS= 06.02.78 SUMSK MEAT COMBINE D12 \*SU -733-604  
Conveying, grouping and loading equipment for sausage-like items - 01319D/02
- SUNW 12.03.74 SUN WAVE IND KK D15 = J5 0120-152  
Water filter used for removing chlorine from tap water - 01195D/02
- \*SUNW 12.03.74 SUN WAVE IND KK D15 \*J8 0048-875  
Water filter used for removing chlorine from tap water - 01195D/02
- SVYG 31.03.78 STATNIVU KOZ GOTTWALD D18 = US 4238-939  
Thermal treatment of leather - 73808B/41
- TAKA- 06.04.76 TAKARA SHUZO KK D13 = J8 0048-779  
Improving taste and flavour of foods - 83953Y/47
- TAKE 02.04.71 TAKEDA CHEMICAL IND KK B02 D16 = J8 0048-797  
Alpha-amino-cephalosporins prepn - 68428T/43
- TAKE 30.05.72 TAKEDA CHEMICAL IND KK B02 D16 = J8 0048-798  
Cephalosporins prodn - 35402V/19
- TAKE/ 04.07.77 TAKEUCHI M D13 = J5 4014-537  
Storage stable brine compsn. - 00445D/01
- TATL 22.02.80 TATE & LYLE LTD A11 C03 D13 G02 (A97 D16 D17) = GB 2050-405  
Thixotropic polysaccharide - 68183C/39
- \*TEAI= 31.01.78 TEA IND RES-MFG COMBINE D13 \*SU -733-615  
Processing green leaf tea - 01329D/02
- TEIJ 07.05.73 TEIJIN KK A88 D15 J01 (A26) = J8 0048-841  
Castable poly(N-acrylbenzimidazole amide) solns - 52984W/32
- TERU- 04.06.79 TERUMO CORP D16 = WP 8002-694  
Microorganism culturing tube - 90583C/51
- THOM 14.04.76 THOMAE K GMBH B05 C03 D21 E14 = IL -51-865  
Perfluoro-acyl or tetrafluoro-cyclobutyl-carbonyl resorcinols - 74152Y/42
- \*THOR/ 20.08.79 THOREL J N B05 D21 \*BE -884-850  
Plaque detecting and treating dental compns. - 00802D/02
- \*TIEM/ 26.02.79 TIEMSTRA P J D13 \*US 4241-099  
Gelled prods. prepd. with high-methoxy pectin - 01861D/02
- TOKA- 01.08.74 TOYO KASEI KOGYO KK D16 = J5 1017-068  
Automatic stirrer for brewing tank - 01190D/02
- \*TOKA- 01.08.74 TOYO KASEI KOGYO KK D16 \*J8 0048-853  
Automatic stirrer for brewing tank - 01190D/02
- TOKZ 07.07.71 TOKYO ORG CHEM IND KK D15 D22 E12 (D22) = J4 8018-426  
Bactericide for use in swimming pools, cosmetics inks etc. - 01194D/02
- \*TOKZ 07.07.71 TOKYO ORG CHEM IND KK D15 D22 E12 (D22) \*J8 0048-874  
Bactericide for use in swimming pools, cosmetics inks etc. - 01194D/02
- TORA 10.08.78 TORAY IND INC A88 D15 E17 J01 (A11 E15) #US 4239-545  
Reverse osmosis membrane comprising cellulose deriv. - 08848B/05
- TOWN 06.06.79 TOWNSEND ENG CO D12 = NL 8003-251  
Cutting sausage links suspended from slotted hook conveyor - 88073C/49
- TOXN 31.03.73 TOYO JOZO KK B02 D16 = J8 0048-799  
Alpha-aminopenicillin and cephalosporin prod from amino acids - 26542W/16
- TOXN 06.06.79 TOYO JOZO KK B04 D16 = NL 8003-236  
Microbial glycerokinase enzyme - 90461C/51
- TUCH- 24.04.79 TUCHENHAGEN O GMBH D16 T05 X25 = GB 2050-6  
Monitoring of cleaning equipment in fermenting vat - 64215C/37
- \*TUPI/ 27.07.77 TUPITSIN I D11 \*SU -733-598  
Dough pieces loader for conveyor in bread-baking oven - 01315D/02
- UGIN 05.10.70 PROD CHIM UGINE KUHLMANN D18 E21 = J8 0048-195  
Brown water-sol azo dyes - 21068T/13
- UGIN 14.03.79 PROD CHIM UGINE KUHLMANN D15 = FR 2451-346  
Treating waste water with hydrogen peroxide to remove sulphur - 67748C/39
- \*UIIN- 11.05.78 U & I INC D13 \*US 4241-093  
Food supplement prepn. from vegetable pulp esp. sugar:beet - 01855D/02
- \*UNES- 30.09.80 UNESP UNIV ESTADUAL D16 \*BR 8006-282  
Prodn. of microbial malic dehydrogenase - D/02
- UNIC 18.04.79 UNION CARBIDE CORP D15 = US 4240-905  
Aeration of liquid-solid mixture - 79266C/45
- UNIC 04.06.79 UNION CARBIDE CORP D12 T06 X25 = NL 8003-226  
Machine to fill tubular sausage casings from collapsed concertina form - 90143C/51
- UNIL 06.09.74 UNILEVER NV D25 E33 (E34) = AT 7506-879  
Detergent compns. esp. for clothes - 20734X/12
- UNIL 17.10.75 UNILEVER NV A97 D25 = AT 7607-663  
Washing powders contg. nonionic surfactant and water-soluble soap - 27114Y/16
- UNIL 10.09.76 UNILEVER NV C03 D23 = AT 7706-434  
Purifying tri:glyceride cpds. by adding hydratable phosphatides - 19676A/11
- UNIL 31.05.78 UNILEVER NV A97 C03 D13 = AT 8003-976  
Stable liquid animal feed, e.g. milk substitute for calves - 87598B/49
- UNIL 09.05.79 UNILEVER NV A97 D25 = BR 8002-744  
Coloured speckled detergent for use in washing powder - 86827C/49
- UNIL 11.05.79 UNILEVER NV D13 = DK 8002-042  
Ice confectionery mouldings extraction - 84812C/48
- UNIL 12.05.80 UNILEVER NV D13 = GB 2050-590  
Ice confectionery mouldings extraction - 84812C/48
- \*UNIW 01.03.78 WASHINGTON STATE UN B03 C02 D16 \*US 4239-690  
Macrolide polylactone(s) Grahamimycin(s) A and B - 01535D/02
- \*UNIW 15.11.78 UNIV OF WASHINGTON A96 D16 J01 \*US 4239-714  
Modifying pore size distribution of microporous sepn. medium - 01549D/02
- USDC 07.03.77 US SEC OF COMMERCE D13 = IL -53-192  
Prepn. of protein isolates from safflower seeds - 15764A/08
- \*USGO 27.03.79 US GOVERNMENT D16 \*US 4241-187  
Appts. for culturing biological cells and tissues - 01903D/02
- USGO 27.09.79 US GOVERNMENT B04 D16 = US 4239-749  
Neisseria gonorrhoeae vaccine - 79089B/43
- \*USIN- 31.01.79 USINAGE REVISIONS D11 \*FR 2447-884  
Bakery elevator for loading and discharging oven shelves - 00832D/02
- \*USSU= 13.09.77 USSURIISK BUTTERFAT D13 \*SU -733-722  
Soya bean sepn. from impurities - 01347D/02
- \*UYCA- 22.08.80 UNIV CATHOLIQUE LOU A96 B04 D16 \*BE -884-876  
Microbial cells immobilisation - 00811D/02
- \*UYCA- 22.08.80 UNIV CATHOLIQUE LOU A96 B04 D16 \*BE -884-877  
Immobilisation of microbial cells - 00812D/02
- \*UYCA- 22.08.80 UNIV CATHOLIQUE LOU A96 B04 D16 \*BE -884-878  
Immobilisation of microbial cells - 00813D/02
- \*UYCH- 07.06.79 UNIV CHICAGO B06 D21 \*WP 8002-642  
Reducing cariogenic activity of sugar, foods etc. - 01942D/02
- \*UYTB= 20.07.77 TBILISI UNIV D23 \*SU -732-366  
Extn. of ethereal oils from citrus fruit - 01297D/02
- UYVI- 26.01.76 UNIV OF VIRGINIA D21 = CA 1090-502  
Filling teeth with dental amalgam - 56966Y/32
- VEOS 07.09.72 VER OSTERR EISEN & STAHL D15 J03 = J4 9093-962  
Oil separation - 21456V/12
- VEOS 07.09.72 VER OSTERR EISEN & STAHL D15 J03 = J8 0048-848  
Oil separation - 21456V/12
- VETE= 04.06.79 VETERINARY EXPER IN B04 C03 D16 #GB 2050-161  
Live vaccine against theileriosis in cattle - 88444C/50
- \*VINN= 13.12.77 VINNITSA TECHN DES D14 \*SU -733-626  
Basket for sterilising cans of preserve in autoclaves - 01332D/02
- \*VOLA- 05.01.77 VOLAC LTD C03 D13 \*GB 1582-451  
Ruminant feed supplement contg. delactosed whey - 00880D/02
- \*WBAS= 26.12.77 W BASIN IND ASSOC D15 J04 S03 \*SU -732-725  
Sea-water sampler - 01307D/02
- WEIS- 07.05.79 GEBR WEISS KG D16 H09 #SE 7903-978  
White peat processing for combustion - 82715C/47
- \*WFR- 25.02.77 WFR/AQUAPLAST CORP A96 D22 (A23 A32) \*US 4240-415  
Orthopaedic cast prepd. from poly-epsilon caprolactone sheet - 01673D/02
- WINT/ 02.05.75 WINTERBERG A A97 C02 D13 E13 = IL -47-218  
Fungistatic coating for edible goods, esp. whole cheeses - 87271X/47



= 13.03.79 WOOL IND RES INST D22 E21 F06 = FR 2451-388  
active azo dyes with antimicrobial activity - 70047C/40  
= 13.03.79 WOOL IND RES INST D22 E21 F06 = J5 5144-055  
active azo dyes with antimicrobial activity - 70047C/40  
26.09.77 WRIGLEY W JR CO D13 E17 = GB 1582-499  
chewing gum for stimulating saliva flow, esp. for athletes - 65304A/37

22.12.76 XEDA INT SA D14 \*IL --53-172  
device for chemical or thermal treatment of vegetable and fruit prods. -  
/02

A-21.01.76 YAMAUMI KK D13 = J5 2090-641  
drying foodstuff without adversely affecting taste and flavour -  
/83D/02  
A-21.01.76 YAMAUMI KK D13 \*J8 0048-788  
drying foodstuff without adversely affecting taste and flavour -  
/83D/02  
S 05.02.75 YAMASA SHOYU KK B03 D13 E11 (B02) = J8 0048-795  
Nucleotides useful as seasoning agents or pharmaceuticals -  
/244X/39  
S 02.06.75 YAMASA SHOYU KK B03 D16 = J8 0048-796  
2,6-bis(hydroxymethyl)pyrimidine monophosphoric acids - 06541Y/04  
26.01.78 YEDA RES & DEV CO LTD D16 \*IL --53-893  
device for harvesting cell cultures - D/02  
S 29.12.77 YAMAMOTO KAGAKU GOS KK D18 E21 = J8 0049-197  
dyeing method - 64018B/35  
S 16.04.75 YOKOGAWA ELECTRIC WKS KK D13 E36 J04 = J5 1120-  
determn. of ozone concn. in water by polarographic method - 01151D/02  
S 16.04.75 YOKOGAWA ELECTRIC WKS KK D13 E36 J04 \*J8 0048-254  
determn. of ozone concn. in water by polarographic method - 01151D/02  
4/20.06.73 YOSHIDA R D21 M26 = J5 0017-092  
fig. metal alloy for filling teeth in dental surgery - 01146D/02  
4/20.06.73 YOSHIDA R D21 M26 \*J8 0048-091  
fig. metal alloy for filling teeth in dental surgery - 01146D/02

B 06.03.79 ZAMBON SPA B05 D21 E16 = J5 5143-961  
mercapto:propionamido-acetic acid derivs. - 68129C/39







NL -159-568 B13 US 4241-085 D02+	55699-U DJ US 3756-408 U38 DE 2330-445 V02 GB 1394-487 W20 CH -564-364 W34 CA -998-001 X43 J4 9052-185 D02 J8 0048-846 D02	59038-W DJ DE 2409-269 W36 NL 7501-830 W37 SE 7501-992 W42 FR 2261-798 W50 DS 2409-269 X06 US 3984-329 X42 GB 1486-345 Y38 J8 0047-928 D01 J5 0125-366 D02	63309-X BD US 3972-930 X33 ZA 7600-964 Y13 AT 7601-158 A35 AT 7901-306 D02	Y 06541-Y BD J5 1142-596 Y04 J8 0048-796 D02	46868-Y D US 4031-254 Y26+ CA 1090-652 D02	69284-Y AD FR 2334-313 Y39+ CH -595-055 A09+ GB 1528-466 A41+ AT 7609-074 D02+	88537-Y BD DE 2723-191 Y50 J5 2154-590 A06 BR 7703-307 A08 FR 2352-057 A10 J5 5143-916 D02+
DE -780 T13 -575 T16 -513 T16 -649 T17 -780 T34 -723 U19 -370 V48 -369 V48 -368 V48 -195 D02	21456-V DJ DE 2345-353 V12 DD -107-431 V42 CH -562-165 W25 HU T010-898 X08 GB 1437-274 X22 DS 2345-353 Y27 SU -593-655 B02 J4 9093-962 D02 J8 0048-848 D02	66325-W DE J5 0067-793 W40 J8 0049-009 D02	65270-X BD DE 2603-321 X35 BE -838-342 X35 NL 7601-226 X35 DK 7600-489 X43 J5 1104-023 X44 SE 7601-261 Y06 FR 2313-078 Y12 US 4125-603 A47 GB 1543-783 B14 CA 1064-394 B44 AT 7600-837 D02	16457-Y D BE -845-866 Y10 NL 7609-825 Y12 DE 2639-594 Y12 SE 7609-535 Y15 J5 2032-882 Y16 NO 7602-921 Y17 DK 7603-818 Y21 FR 2322-636 Y23 ZA 7605-105 A20 GB 1535-336 A50 CA 1090-650 D02 AT 7606-424 D02	54099-Y BCD BE -850-899 Y31 DE 2703-938 Y33 NL 7701-176 Y34 J5 2108-094 Y42 FR 2340-325 Y47 IL --51-277 C09 GB 1574-023 C36 CA 1090-728 D02	74152-Y BCDE BE -853-558 Y42 NL 7703-133 Y44 DE 2616-479 Y45 NO 7701-279 Y48 J5 2128-340 Y49 FI 7701-158 Y51 DK 7701-643 A02 NO 7703-721 A02 SE 7704-256 A13 FR 2361-329 A19 PT --66-432 A47 AT 7803-824 A48 AT 7803-826 A48 AT 7803-825 A48 AT 7702-407 B04 AT 7803-828 B04 AT 7803-827 B04 AT 7803-823 B04 ZA 7702-233 B05 GB 1566-512 C18 US 4225-619 C42 IL --51-865 D02	A 02136-A AD BE -857-900 A02 DE 2736-816 A09 NL 7709-207 A10 DK 7703-654 A17 BR 7705-489 A19 FR 2361-835 A20 PT --66-937 A37 ZA 7704-782 B18 GB 1582-475 D02
BCDE -5383 T21 -5773 T22 -499 T22 -625 T25 -369 T42 -508 V06 -2047 X06 -9043 D02	35402-V BD J4 9013-393 V19 J8 0048-798 D02	X 00113-X BCDE BE -832-190 X01+ NL 7509-258 X09+ DE 2535-171 X09+ SE 7508-829 X14+ J5 1026-853 X16 J5 1026-854 X16 DK 7503-564 X19+ FR 2281-131 X22+ DD -119-213 X24+ ZA 7504-877 X35 US 4076-703 A11+ US 4076-702 A11+ US 4076-705 A11+ US 4076-704 A11+ GB 1511-669 A21+ US 4154-727 B22+ DS 2535-171 B22+ HU T018-064 C20+ CH -617-668 C29+ US 4240-957 D02+	70494-X BDE BE -841-178 X38 NL 7603-870 X48 DE 2520-173 X50 SE 7604-128 X51 J5 1133-217 Y01 FI 7601-068 Y04 FR 2310-354 Y09 DK 7601-182 Y09 DD -125-937 Y33 GB 1483-998 Y34 AT 7602-036 A11 CH -597-254 A15 US 4117-173 A40 CA 1039-718 A42 DS 2520-173 A44 SU -665-806 C07 US 4233-439 C48 SE 8005-510 D02	27114-Y AD BE -847-164 Y16 DE 2645-880 Y17 DE 2645-881 Y17 NL 7611-463 Y18 NL 7611-462 Y18 J5 2050-308 Y22 J5 2050-307 Y22 SE 7611-496 Y22 SE 7611-495 Y22 NO 7603-509 Y23 NO 7603-491 Y23 FR 2328-042 Y29 FR 2328-043 Y29 BR 7606-927 Y38 BR 7606-926 Y38 PT --65-722 A21 ZA 7606-174 A25 ZA 7606-173 A25 AT 7607-662 B26 CA 1064-360 B44 CA 1064-361 B44 GB 1560-073 C05 GB 1560-074 C05+ AT 7607-663 D02	56966-Y D NL 7700-678 Y32 DE 2702-923 Y33 SE 7700-772 Y36 DK 7700-324 Y41 FR 2338-696 Y44 US 4064-629 A02 J5 3004-393 A08 AT 7700-437 B18 GB 1565-441 C17 IL --51-219 C19 CA 1090-502 D02	75874-Y DE BE -853-733 Y43 NL 7704-326 Y45 DE 2717-766 Y45 J5 2132-030 Y50 FR 2348-911 A06 US 4125-601 A47 DS 2717-766 B05 GB 1549-752 B32 CA 1074-815 C15 AT 7702-685 C27 J8 0049-088 D02	02886-A DM J5 2139-633 A02 J8 0048-593 D02
BD -5-113 T43 -4-10 T43 -552 T47 -5388 T48 -2-271 U07 -5-253 V25 -5-943 W10 -0-409 W38 -2-899 X31 -2-099 Y48 -3-797 D02	26542-W BD J4 9124-288 W16 J8 0048-799 D02	11766-X DJ J5 0017-053 X07 J8 0048-873 D02	72165-X BD BE -839-259 X39 NL 7602-258 X39 DE 2608-216 X40 SE 7602-864 X43 NO 7600-725 X44 DK 7600-927 X48 FI 7600-562 X48 FR 2302-748 Y02 J5 1136-890 Y02 PT --64-865 Y10 ZA 7601-119 Y19 DD -124-606 Y23 AT 7601-597 Y35 HU T014-119 Y45 GB 1496-386 A01 SU -579-902 A39 IL --49-094 B29 CH -611-931 B29 CS 7601-393 C03 CA 1072-470 C11 J5 5102-598 C38 US 4239-751 D02	27225-Y DEF BE -849-436 Y16 DE 2656-285 Y26 DK 7605-639 Y36 FR 2335-598 Y42 US 4055-505 Y44+ ZA 7607-283 A34 CA 1090-505 D02	59473-Y BCD BE -853-893 Y34 DE 2717-811 Y44 NL 7704-395 Y45 SE 7704-604 Y48 J5 2131-594 Y50 DK 7701-780 A03 DD -129-331 A14 BR 7702-505 A14 FR 2361-418 A19 CS 7702-666 B12 CA 1072-088 C11 US 4195-172 C14 GB 1582-378 D02	75958-Y BCD BE -855-898 Y43 DE 2728-802 A03 NL 7707-174 A04 SE 7707-311 A06 DK 7702-857 A11 FR 2356-428 A14 J5 3062-814 A28 US 4178-365 B51+ GB 1582-294 D02	04345-A CD DE 2629-268 A03 NL 7707-228 A04 DK 7702-911 A11 CS 7704-226 A13 FR 2356-378 A14 DS 2629-268 B14 AT 7704-578 B22 HU T016-516 B23 GB 1582-397 D02
BCDE -866 T48 -9-108 T49 -1-251 U01 -4-421 U12 -4-465 U37 -0-94 V01 -7-338 V39 -4-443 W15 -4-694 W19 -0-026 B18 -776 B30 -968 B37 -876 B47 -214 D02+	26543-W BD J4 9124-289 W16 J8 0048-793 D02	13411-X BCDE DE 2534-162 X08+ NL 7509-027 X08+ FR 2280-391 X21+ J5 1044-671 X22+ CH -588-822 Y29 GB 1491-269 Y45+ CH -596-779 A15 DS 2534-162 A26+ NL -160-707 B31+ US 4220-561 C38+ J5 5129-217 C47+ J8 0048-778 D02+	72944-X BDE J5 1091-394 X39 J8 0048-795 D02	27225-Y DEF BE -849-487 Y17+ NL 7613-871 Y27+ DE 2657-913 Y27+ SE 7614-403 Y31 NO 7604-318 Y32+ J5 2083-979 Y35 DK 7605-771 Y37+ FI 7603-634 Y38+ FR 2336-090 Y43+ US 4066-799 A03+ GB 1531-349 A45+ DS 2657-913 B12+ NL -161-980 B48 CA 1090-651 D02+	59473-Y BCD BE -853-893 Y34 DE 2717-811 Y44 NL 7704-395 Y45 SE 7704-604 Y48 J5 2131-594 Y50 DK 7701-780 A03 DD -129-331 A14 BR 7702-505 A14 FR 2361-418 A19 CS 7702-666 B12 CA 1072-088 C11 US 4195-172 C14 GB 1582-378 D02	77499-Y BCD BE -853-923 Y44 NL 7804-182 A45 DE 2817-891 A46 SE 7804-116 A49 NO 7801-421 A50 DK 7801-608 A50 FI 7801-233 B04 FR 2388-564 B05 J5 4011-228 B10 PT --67-868 B15 ZA 7801-832 B18 AT 7802-922 C05 US 4235-876 C50 IL --54-390 D02	06352-A BD BE -856-860 A04 DE 2632-677 A05 NL 7706-638 A06 SE 7708-192 A09 J5 3015-493 A13 DK 7703-236 A13 FR 2365-588 A25 FR 2372-175 A35 FR 2372-174 A35 FR 2372-176 A35 DD -132-439 A46 DK 7802-383 A49 DK 7802-382 A49 DK 7802-384 A49 DD -136-141 B33 DD -136-142 B33 DD -137-235 B43 US 4179-336 C01 CS 7704-682 C15 CS 7805-917 C15 CS 7805-918 C15 CS 7805-919 C15 AT 7705-046 D02
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J8 0048-800 D02

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DK 7704-337 A23  
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ZA 7705-842 A42  
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ZA 7704-856 A29  
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GB 1582-299 D02

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NL 7713-471 A25  
SE 7713-665 A29  
J5 3077-296 A32  
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IL --53-538 D02

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CA 1090-647 D02

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FR 2418-175 B49 +  
GB 1558-324 B51 +  
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CA 1090-538 D02

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FI 7702-645 A21  
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ZA 7705-440 B20  
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SE 7800-530 A35  
DK 7800-221 A38  
FR 2377-158 A42  
AT 7800-156 D02

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J5 4079-952 B32 +  
CA 1062-380 B39  
IL --53-293 D02

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IL --53-495 D02

## 42487-A ADEF

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US 4239-915 D02

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SU -707-524 C34  
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## 44422-A DELM

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GB 1556-329 B47  
CA 1090-818 D02

## 45809-A BCD

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NL 7714-141 A28 +  
SE 7714-661 A31  
J5 3079-097 A33 +  
DK 7705-775 A35 +  
FR 2378-854 A44 +  
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DK 7705-838 A36 +  
FI 7703-942 A38 +  
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FR 2384-716 B01 +  
PT --67-480 B07 +  
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GB 1563-467 C13 +  
AT 7709-446 D02

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NL 7800-172 A30  
SE 7800-112 A33  
BR 7800-087 A35  
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CA 1090-515 D02

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SE 7803-671 A46  
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SE 7803-673 A46  
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CA 1090-584 D02

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NL 7803-503 A42  
SE 7803-615 A45  
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DD -136-701 B39  
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IL --54-370 D02

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NL 7800-246 B30 +  
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## 61147-A CDE

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## 65304-A DE

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GB 1582-499 D02

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GB 1551-809 B50  
CA 1090-793 D02

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DE 2811-010 A40  
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SE 7802-899 A46  
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NL 7805-924 A51  
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ZA 7802-935 B25  
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J7 9028-413 B41  
US 4239-113 D02

## 82116-A BDE

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NL 7805-032 A48 +  
DE 2819-898 A48 +  
SE 7805-317 A51 +  
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DK 7801-928 A51  
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NL 7805-637 A50  
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GB 1571-204 C46  
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US 4241-089 D02

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AT 7804-550 D02

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US 4240-904 D02

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DK 7804-144 B20  
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PT --68-572 B24

FI 7802-881 B25  
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AT 7806-782 D02

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US 4239-545 D02 +

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CA 1090-738 D02 +

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## 28060-B DEH

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AT 7807-071 C23  
US 4240-808 D02

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J5 4082-307 B32  
US 4241-039 D02

## 29959-B DJ

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## 39310-B D

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US 4240-164 D02

## 40601-B BD

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## 40962-B DHJ

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## 45912-B D

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DK 7900-118 B35  
SE 7900-252 B35  
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FR 2414-556 B43  
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US 4241-100 D02

## 56404-B BCD

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GB 2013-494 B33  
DK 7900-017 B36  
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US 4239-750 D02

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## 60129-B DLM

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		NL 8002-658 C48	DK 8001-090 C45	NO 8001-100 C49		DK 8001-553 C49+	
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653 D02	FR 2451-398 D02	DE 3009-512 C40	FR 2451-166 D02	US 4239-620 D02	DK 8002-029 D02		GB 1582-319 D02
		GB 2044-745 C43				00129-D BD	
D	41937-C DE	SE 8001-946 C44	70061-C BDE	82639-C AD	85617-C D	DE 2924-006 D01	00879-D AD
077 C05+	EP --11-984 C24	J5 5124-593 C45	DE 3009-875 C40	BE -883-107 C47	NL 7903-681 C48	WP 8002-848 D02	GB 1582-450 D02
346 D02	US 4240-919 D02	DK 8001-076 C45	BE -882-216 C40	DE 3017-017 C48	EP --19-332 C49		
		FR 2451-346 D02	NL 8001-528 C40	GB 2050-393 D02	DK 8002-030 D02	00213-D D	00880-D CD
D	43324-C D	67763-C CDEH	DK 8001-106 C45			DE 3008-313 D01	GB 1582-451 D02
362 C08	BE -881-445 C25	BE -883-183 C39	NO 8000-748 C45	82715-C DH	86329-C D	GB 2050-143 D02	DK 7800-034 A37
444 C18	NL 8000-076 C40	DE 3017-611 C48	SE 8002-013 C45	DE 2917-459 C47	WP 8002-371 C48		
430 C18	DE 3000-327 C40	PT --71-194 C51	GB 2046-743 C47	SE 7903-978 D02+	EP --19-602 C49	00214-D D	00883-D D
759 C20	GB 2043-649 C41	NO 8001-365 D01	J5 5132-628 C48		SE 7903-856 D02	DE 3009-707 D01	GB 1582-520 D02
208 C23	J5 5120-754 C44	GB 2049-457 D01	FI 8000-807 D01	82775-C DE	86448-C ADEF	GB 2050-338 D02	
433 C30	SE 8001-236 C44	DK 8001-707 D02	FR 2451-357 D02	DE 2918-168 C47	DE 2918-363 C49		00886-D ADJ
997 D02	DK 8001-048 C45	SE 8003-430 D02		BR 8002-710 D02	EP --19-734 C51	00418-D BCD	GB 1582-529 D02
	FR 2451-167 D02	BR 8002-841 D02	71632-C D		BR 8002-781 D02	J4 9047-163 D02	00892-D AD
BD			BE -883-528 C41	82930-C D			GB 2050-160 D02
224 C09	45926-C ADF	67764-C CDEH	NL 8003-115 C51	EP --16-887 C47	86565-C ADJK	00421-D D	
143 C10	NL 7908-845 C26+	BE -883-184 C39	DE 3020-608 C51	PT --70-631 C47	DE 2925-170 C49	J8 0047-078 D01	00896-D D
500 C10	BE -880-486 C27+	DE 3017-642 C48	GB 2050-333 D02	PT --70-632 C47	GB 2050-186 D02	J5 0007-803 D02	GB 2050-185 D02
248 C11	DE 2949-181 C27+	PT --71-193 C51		US 4241-010 D02			
899 C14	SE 7910-106 C30+	NO 8001-364 D01	71999-C D		86753-C BD	00445-D D	00898-D DJ
751 C22	GB 2038-704 C31+	DK 8001-708 D02	EP --16-552 C41	82991-C DE	EP --19-218 C49	J8 0047-869 D01	GB 2050-192 D02
179 D02	BR 7907-998 C32+	SE 8003-431 D02	DK 8000-835 C43	EP --18-621 C47	NO 8001-443 D02	J5 4014-537 D02	
	J5 5101-266 C37+	BR 8002-824 D02	US 4230-685 C46	US 4237-110 C51			00919-D DE
DE	PT --70-564 D02+	GB 2050-339 D02	J5 5143-440 D02	BR 8002-693 D02	86827-C AD	00446-D D	GB 2050-365 D02+
059 C09					EP --19-413 C49	J8 0047-922 D01	
891 C09	46469-C ADJ	67991-C D	72054-C D	82995-C ADE	BR 8002-744 D02	J5 1102-353 D02	00926-D BDE
952 D02	DE 2948-462 C27+	DE 3003-983 C39	EP --16-685 C41	EP --18-630 C47			GB 2050-418 D02
	SE 7910-023 C30+	NL 8000-822 C40	BR 8001-503 C48	DE 2918-364 C48	88073-C D	00447-D D	
DE	FR 2443-425 C39	J5 5124-462 C45	FR 2451-570 D02	BR 8002-782 D02	US 4233-709 C49	J8 0047-923 D01	00953-D D
060 C09	FR 2443-670 C39	BR 8000-711 C45			DE 3021-260 C51	J5 0091-950 D02	J5 5075-710 D02
073 C10	GB 2044-295 C42+	US 4232-052 C47	73370-C BDE	84341-C D	NL 8003-251 D02		
641 D02	FR 2451-596 D02	GB 2049-388 D01	US 4224-309 C41	BE -883-265 C48		00448-D D	01009-D D
		FR 2451-223 D02	BE -884-896 D02+	NL 8002-757 C49	88444-C BCD	J8 0047-924 D01	J5 5143-907 D02
BD	46664-C ADE	68066-C D	73461-C BCD	DE 3018-598 C49	DE 2914-813 C50	J5 3012-151 D02	
862 C10	EP --12-483 C27	DE 3009-009 C39	BE -882-574 C42	DE 3018-599 C49	GB 2050-161 D02+		01010-D DE
575 C22	J5 5115-498 C42	FR 2451-158 D02	NL 8001-868 C43	GB 2050-165 D02		00450-D D	J5 5143-908 D02
364 C23	US 4239-659 D02		DE 3012-565 C44	GB 2050-411 D02	88609-C D	J8 0047-926 D01	
203 C32		68129-C BDE	NO 8000-967 C47		DE 3008-503 C50	J5 3110-173 D02	01011-D DE
134 D02	48398-C D	EP --15-544 C39+	DK 8001-387 C48	84342-C AD	NL 7904-048 C50		J5 5143-909 D02
	DE 2950-776 C28+	J5 5143-961 D02+	SE 8002-521 C48	BE -883-266 C48	GB 2050-237 D02	00451-D D	
ABD	FR 2444-712 C41+		FI 8000-973 D01	NL 8002-755 C49		J8 0047-927 D01	01015-D BDE
155 C14	GB 2046-782 C47+	68183-C ACDG	GB 2050-384 D02	DE 3018-600 C49	88682-C BCD	J5 3119-473 D02	J5 5143-920 D02
354 C23	US 4241-186 D02	EP --15-691 C39		GB 2050-166 D02	DE 3020-470 C50		
350 C23		DK 8000-944 C44	73500-C AD		US 4239-772 D02	00452-D D	01107-D ADE
916 C28	54003-C D	J5 5123-601 C45	BE -883-646 C42	84392-C D	GB 2050-374 D02	J8 0047-931 D01	J5 5144-099 D02
731 C28	GB 2038-863 C31	GB 2050-405 D02+	WP 8002-641 D02	BE -884-374 C48		J5 2154-578 D02	
505 C28	US 4240-972 D02			WP 8002-636 D02	88809-C AD	00781-D DE	01108-D D
306 C28		69578-C BD	73516-C D	84576-C D	J5 5108-358 C50	BE -883-864 D02	J5 5144-100 D02
617 C29	60771-C ADE	BE -882-325 C40	BE -883-718 C42	DE 2918-829 C48	J5 5108-358 C40		
463 C33	DE 3005-134 C35	NL 8001-697 C48	DE 3021-582 D01	NL 7903-989 C50+	US 4239-043 D02	00783-D D	01146-D DM
504 C34	GB 2041-954 C38	DE 3006-215 C49	NL 8003-314 D02	DK 7901-886 D02+		BE -884-704 D02	J8 0048-091 D02
389 C36	SE 8001-047 C40	GB 2049-664 D01			90094-C AD		J5 0017-092 D02
385 D02	J5 5111-409 C41	DK 8000-731 D02	75366-C D	84727-C D	WP 8002-369 C50	00788-D D	01151-D DEJ
	BR 8000-655 C45		BE -883-829 C43+	DE 3015-088 C48	SE 7903-886 D02	BE -884-818 D02	J8 0048-254 D02
DF	FR 2448-345 C48	69827-C D	PT --71-369 D02+	GB 2048-051 C50			J5 1120-790 D02
932 C16	US 4240-832 D02	DS 2919-449 C40		DK 8001-909 D01	90140-C BCD	00802-D BD	
893 C22		BE -883-318 C48	77096-C DJ	NO 7901-481 D01	BE -883-592 C51+	BE -884-850 D02	01180-D AD
040 C25	62273-C DE	NL 8002-750 C49	BE -883-881 C44	SE 8003-070 D02	PT --71-349 D02+		J8 0048-775 D02
306 C25	BE -881-792 C36+	GB 2050-142 D02	WP 8002-849 D02			00811-D ABD	J4 9108-267 D02
216 C43	DE 3004-338 C39+			84765-C AD	90141-C BCD	BE -884-876 D02	
589 D02	NL 8000-903 C40+	70020-C D	77470-C DE	DE 3017-221 C48	BE -883-593 C51+		01181-D DE
	PT --70-929 C41+	DE 3008-663 C40	EP --17-396 C44	GB 2049-424 D01	PT --71-350 D02+	00812-D ABD	J8 0048-782 D02
AD	J5 5120-873 C44+	GB 2045-081 C44	J5 5141-458 C51	SE 7904-028 D02	GB 2050-385 D02+	BE -884-877 D02	J5 0071-863 D02
947 C17	SE 8000-749 C44+	GB 2045-055 C44+	GB 2050-350 D02+				
856 C36	GB 2045-055 C44+	BR 8001-431 C48+		90143-C D	BE -883-600 C51	00813-D ABD	01182-D DE
766 C51	BR 8001-431 C48+	FR 2451-196 D02+		BE -883-600 C51	NL 8003-226 D02	BE -884-878 D02	J8 0048-783 D02
269 D02	FR 2451-196 D02+			GB 2048-829 C51			J5 0100-258 D02
				DK 8001-995 D02			
				SE 8003-379 D02			



01183-D

01183-D D J8 0048-788 D02 J5 2090-641 D02	01331-D D SU -733-625 D02	01662-D D US 4240-186 D02	01899-D BD US 4241-181 D02
01187-D D J8 0048-847 D02 J5 0115-680 D02	01332-D D SU -733-626 D02	01666-D D US 4240-267 D02	01900-D D US 4241-183 D02
01188-D D J8 0048-850 D02 J5 1005-663 D02	01333-D D SU -733-627 D02	01672-D D US 4240-397 D02	01901-D DE US 4241-184 D02+
01190-D D J8 0048-853 D02 J5 1017-068 D02	01334-D D SU -733-628 D02	01673-D AD US 4240-415 D02+	01902-D D US 4241-185 D02
01194-D DE J8 0048-874 D02 J4 8018-426 D02	01335-D D SU -733-629 D02	01686-D AD US 4240-436 D02	01903-D D US 4241-187 D02
01195-D D J8 0048-875 D02 J5 0120-152 D02	01336-D D SU -733-630 D02	01689-D DE US 4240-447 D02+	01904-D D US 4241-188 D02
01228-D DJ NL 7904-454 D02	01342-D D SU -733-704 D02	01710-D AD US 4240-760 D02	01926-D DE US 4241-228 D02+
01233-D AD NL 8003-241 D02	01345-D DJ SU -733-707 D02	01713-D D US 4240-779 D02+	01940-D D WP 8002-635 D02+
01296-D DE SU -732-365 D02	01347-D D SU -733-722 D02	01717-D AD US 4240-794 D02+	01941-D D WP 8002-640 D02
01297-D D SU -732-366 D02	01348-D D SU -733-723 D02	01766-D D US 4240-906 D02	01942-D BD WP 8002-642 D02+
01307-D DJ SU -732-725 D02	01412-D D US 4239-175 D02	01771-D AD US 4240-921 D02+	01944-D D WP 8002-644 D02
01313-D CDEF SU -733-592 D02	01426-D DJ US 4239-394 D02	01774-D DE US 4240-926 D02	01946-D DJ WP 8002-650 D02
01314-D D SU -733-597 D02	01435-D D US 4239-492 D02+	01779-D ADF US 4240-937 D02+	01960-D AD WP 8002-688 D02
01315-D D SU -733-598 D02	01463-D DEG US 4239-541 D02	01798-D DE US 4240-969 D02	01964-D D WP 8002-695 D02
01316-D D SU -733-599 D02	01494-D DJ US 4239-601 D02+	01804-D DE US 4240-985 D02	01965-D ABD WP 8002-697 D02+
01317-D D SU -733-600 D02	01505-D DE US 4239-621 D02+	01823-D D US 4241-020 D02	01983-D BDK WP 8002-747 D02
01318-D D SU -733-603 D02	01511-D DE US 4239-631 D02+	01824-D D US 4241-025 D02	01985-D D WP 8002-788 D02
01319-D D SU -733-604 D02	01514-D AD US 4239-639 D02	01836-D ABD US 4241-049 D02+	02004-D AD WP 8002-840 D02
01320-D D SU -733-605 D02	01520-D ADE US 4239-660 D02+	01840-D BCD US 4241-061 D02	
01321-D D SU -733-606 D02	01522-D ABD US 4239-664 D02+	01852-D AD US 4241-090 D02	
01322-D D SU -733-607 D02	01535-D BCD US 4239-690 D02+	01853-D AD US 4241-091 D02	
01323-D D SU -733-608 D02	01539-D DEHM US 4239-695 D02	01854-D D US 4241-092 D02	
01324-D D SU -733-609 D02	01549-D ADJ US 4239-714 D02	01855-D D US 4241-093 D02	
01325-D D SU -733-610 D02	01557-D DE US 4239-731 D02+	01856-D D US 4241-094 D02	
01326-D D SU -733-611 D02	01564-D BDK US 4239-745 D02+	01857-D D US 4241-095 D02	
01327-D D SU -733-613 D02	01574-D ABD US 4239-781 D02+	01858-D D US 4241-096 D02+	
01328-D D SU -733-614 D02	01575-D CD US 4239-782 D02	01859-D DE US 4241-097 D02	
01329-D D SU -733-615 D02	01576-D D US 4239-783 D02+	01860-D DE US 4241-098 D02	
01330-D D SU -733-623 D02	01577-D D US 4239-785 D02	01861-D D US 4241-099 D02	
	01578-D D US 4239-786 D02	01866-D D US 4241-106 D02	
	01660-D ABD US 4240-163 D02	01898-D DJL US 4241-180 D02	



734X D25E33	BR 8006 * 282 D D16	GB 1582 * 529 00886D A31D14J02 = 530 55487A D16 = 542 60886Y D12P4 = 543 60886Y D12P4	J5 0120 = 152 01195D D15
270X B07D16+P3	CA 1090 = 502 56966Y D21+P3 = 505 27225Y D25E13F06 = 506 57532Y D25E16 = 515 49719A D22F09P2+P7 = 531 30240A D21E33 = 538 19659A D15 = 553 61225Y A14C03D22+P2 = 584 53232A D15M25 = 647 19591A D13+Q7 = 648 40305Y C03D13 = 649 17550A D13 = 650 16457Y D16 = 651 29162Y D13E16 = 652 46868Y D13 = 653 05140C D13 # 671 03972A A97D13E16 = 672 29463X D25E37 = 706 05991B D21E34 = 713 60345A D15+P6 = 722 45912B D15P4Q6 = 728 54099Y B04C03D16 # 738 16139B D22J01+P3 # 744 28703A A92D13Q3 = 793 66818A D17E13 = 818 44422A D15E11L02M14 # 925 36436A A91D15 # 926 56782A D15	GB 2050 = 134 16783C B04D16+P1 = 142 69827C D13 = 143 00213D D13 * 160 00892D A96D21 # 161 88444C B04C03D16 = 162 34603C A96D21 = 163 34604C A96D21 = 165 84341C D21 = 166 84342C A96D21 * 185 00896D D15 = 186 86565C A88D15J01K07 * 192 00898D D15J01 = 237 88609C D13 = 333 71632C D15 = 337 90384C D15+R1 = 338 00214D D15 = 339 67764C C04D16E17H06+P1 = 350 77470C D23E16 * 365 00919D D23E15 = 374 88682C B02C02D13 = 384 73461C B02C02D16 = 385 90141C B02C02D16 = 386 40601B B04D16S03S05R1 = 393 82639C A96D21 = 405 68183C A11C03D13G02Q4 = 410 65994C B05D12E16 = 411 84341C D21 * 418 00926D B04D16E19 = 590 84812C D13+Q7 # 601 44032B B04D16S03S05R1+P3 = 618 64215C D16T05X25P4R2	J5 0125 = 366 59038W D15J01
457Y D16			J5 1005 = 663 01188D D15
114Y A97D25			J5 1017 = 068 01190D D16
284Y A88D18P1			J5 1102 = 353 00446D D15Q2
549Y A97D25			J5 1120 = 790 01151D D13E36J04R1
875A A97D18P1			J5 2090 = 641 01183D D13
876A A97D18P1			J5 2154 = 578 00452D D15
352A B01D16			J5 3012 = 151 00448D D15
676A C03D23			J5 3110 = 173 00450D D15
934A D25E11			J5 3119 = 473 00451D D15
739W D13			J5 4014 = 537 00445D D13
809A B04C03D16	DK 7800 = 034 00880D C03D13		J5 5075 * 710 00953D D15
754A D25E36	DK 7901 # 886 84576C D12		J5 5143 = 269 30879C A92D22Q3+P3 = 440 71999C D16S03+R1 = 906 79057C D22 * 907 01009D D21 * 908 01010D D21E13 * 909 01011D D21E15 = 916 88537Y B04D16+P3 * 920 01015D B05D13E17 = 940 90527C A60D25E24F06 = 961 68129C B05D21E16 = 994 79272C B02D16
000A D11	DK 8000 = 731 69578C B03D16	IL --47 = 218 87271X A97C02D13E13	J5 5144 = 044 79157C A97D22G04 = 055 70047C D22E21F06 * 099 01107D A97D25E12 * 100 01108D D25
D B04D16	DK 8001 = 707 67763C C04D16E17H06+P1 = 708 67764C C04D16E17H06+P1 = 912 90824C B04D16 = 995 84771C D11Q3	IL --51 = 865 74152Y B05C03D21E14	J8 0048 * 091 01146D D21M26 * 254 01151D D13E36J04R1 = 593 02886A D15M14 * 775 01180D A97D13 = 778 13411X B07C03D23E13+P1 = 779 83953Y D13 * 782 01181D D12E13 * 783 01182D D12E19 * 788 01183D D13 = 790 42562U D13E17 = 793 26543W B02D16 = 794 45146W B02D16 = 795 72944X B03D13E11 = 796 06541Y B03D16 = 797 68428T B02D16 = 798 35402V B02D16 = 799 26542W B02D16 = 800 22377A B02D16 = 841 52984W A88D15J01 = 842 46736W A88D15J01 = 846 55699U D15J01T06+R2 * 847 01187D D15 = 848 21456V D15J03 * 850 01188D D15 * 853 01190D D16 = 863 00311T D15J01 = 871 29218X D15 = 872 13174A D15E36 = 873 11766X D15J01 * 874 01194D D15D22E12 * 875 01195D D15
875B D21E19	DK 8002 = 028 85614C D12Q3 = 029 85616C D12X25 = 030 85617C D12X25 = 031 85615C D12X25 = 042 84812C D13+Q7	IL --52 * 536 D D22T06X25P1 = 940 25194A C03D13	
874B D21E13		IL --53 = 066 10348A C01D13 * 172 D D14P1P4Q3 = 192 15764A D13 = 293 38768A D15 = 317 40600A D15J03K05L02 = 361 23389A A97D13E24 = 495 42126A B03D13E13 = 538 26985A A14B04D15 = 590 30266A A97B07D13E22 * 893 D D16	
142B B05D21E16	FR 2447 * 884 00832D D11Q3	IL --54 = 370 55129A B04C03D16 = 390 77499Y B04C03D16	
84B D13	FR 2451 = 157 70021C D13P1+Q4 = 158 68066C D13P1 * 159 00833D D22P1P6 * 165 00835D D11 = 166 70055C D13 = 167 43324C D13 = 168 70028C C03D13 = 192 70020C D21 * 195 00839D D22S05P3 = 196 62273C D22E19P3 * 201 00841D D16K01P3 # 210 29959B D15J01 = 223 67991C D13P4 * 225 00844D D17J01P4 = 253 38293C A88D14P4 = 345 65001Y D15 = 346 67748C D15 = 357 70061C B05D13E17 = 388 70047C D22E21F06 = 398 41510C D17 * 412 00854D D22F04P3 = 570 72054C D14S02T06P1Q3R1 = 596 46469C A85D15J03X25+R2	J4 8018 = 426 01194D D15D22E12	
537B D17E13		J4 8044 = 415 24737U C02D16+Q6	
D D12		J4 9047 = 163 00418D B04C03D16	
309X B03D16		J4 9052 = 185 55699U D15J01T06+R2	
83B B04D16		J4 9093 = 962 21456V D15J03	
D D21		J4 9108 = 267 01180D A97D13	
769C A96B04D21		J5 0007 = 803 00421D D23	
D D12		J5 0017 = 092 01146D D21M26	
598B A97C03D13		J5 0071 = 863 01181D D12E13	
81D D21E24		J5 0091 = 950 00447D D15	
83D D12	GB 1582 * 228 00863D D15J04S03R1 = 290 14038A A97D25E16F06 = 294 75958Y B04C03D16 = 299 15920A D25E19F06 = 303 85018Y B04D16S03S05R1+R4 = 304 85018Y B04D16S03S05R1+R4 = 310 08372A A96D22P5+P3 * 319 00873D D13 = 378 59473Y B05C03D16 = 397 04345A C03D13 = 420 82116A B05D21E14 * 450 00879D A96D22P3 * 451 00880D C03D13 = 459 13743A D13E13P1 = 475 02136A A96D22P2 = 480 08656A D17E13F09 = 483 13392A B03D22+P3 = 499 65304A D13E17 * 520 00883D D15	J5 0100 = 258 01182D D12E19	
88D D13		J5 0115 = 680 01187D D15	
02D B05D21			
11D A96B04D16			
12D A96B04D16			
13D A96B04D16			
70C B05D21E11			
D D16J01Q7			
D A96D21P3Q7			
56C A97D16E13P1+P7			
91C D17E36			
75C D23E13			
27C A97D25			
48C A97D25E19F06			
95C A97D25E19			
11C A41C04D15E16			
D D15			
64C C04D16E17H06+P1			
63C C04D16E17H06+P1			



## NL 7904

## NL 7904

\* 454 01228D D14J01  
# 545 79129B A96B05D21

## NL 7907

= 236 34603C A96D21  
= 374 34604C A96D21

## NL 8003

= 226 90143C D12T06X25R2  
= 236 90461C B04D16  
\* 241 01233D A11D25  
= 251 88073C D12 + P6  
= 314 73516C D13T05Q7 + R1

## NO 8001

= 443 86753C B04D16

## PT --70

= 564 45926C A96D22F01P3

## PT --71

= 346 09176C D15Q7  
= 349 90140C B02C02D16  
= 350 90141C B02C02D16  
\* 365 D D15  
= 369 75366C D16  
\* 433 D B03D22  
\* 466 D D12V04X25Q3  
\* 467 D D12P7Q3

## SE 7903

= 856 86329C D21  
= 886 90094C A96D22P3  
# 978 82715C D16H09

## SE 7904

= 028 84765C A96D21

## SE 8003

= 070 84727C D12  
= 379 84771C D11Q3  
= 430 67763C C04D16E17H06 + P1  
= 431 67764C C04D16E17H06 + P1  
= 488 65987C B04D16 + R1

## SE 8005

= 510 70494X B03D13E13

## SU -732

\* 365 01296D D23E11  
\* 366 01297D D23  
\* 725 01307D D15J04S03R1

## SU -733

= 521 34542W D15J03X25  
\* 592 01313D C03D13E17F01P1  
\* 597 01314D D11  
\* 598 01315D D11  
\* 599 01316D D11  
\* 600 01317D D13  
\* 603 01318D D12P3  
\* 604 01319D D12  
\* 605 01320D D12  
\* 606 01321D D12  
\* 607 01322D D12  
\* 608 01323D D12  
\* 609 01324D D12  
\* 610 01325D D14  
\* 611 01326D D12  
\* 613 01327D D14  
\* 614 01328D D13S03X25R1  
\* 615 01329D D13  
\* 623 01330D D13  
\* 625 01331D D14Q3  
\* 626 01332D D14  
\* 627 01333D D14  
\* 628 01334D D14P4  
\* 629 01335D D18P1  
\* 630 01336D D18P1  
\* 704 01342D D15  
\* 707 01345D D13J02  
\* 722 01347D D13P4  
\* 723 01348D D13P4

## US 4238

= 939 73808B D18 + P6  
= 997 12937C D13  
= 998 58456B D14S02R1 + P7

## US 4239

= 043 88809C A96D22 + P3  
= 113 72816A A96D22L02P3 + Q3  
\* 175 01412D D14  
\* 394 01426D D13J04S03X25R1  
\* 492 01435D D22  
= 493 00282B D15J04T06R2  
= 525 01804C C02D22E13F09  
= 533 60129B D21L03M26V02 + R4  
\* 541 01463D D22E33G02  
# 545 08848B A88D15E17J01  
= 552 15064C D25E19

## US 4239

= 589 27724C D15F09  
\* 601 01494D D15J01  
= 620 81145C D15H05J01M11  
\* 621 01505D D15E36  
= 622 86113A D15E16  
\* 631 01511D D25E16  
\* 639 01514D A92D25P7Q3  
= 640 33801A D25E17  
= 641 15065C D25E17  
= 659 46664C A97D25E19  
\* 660 01520D A97D25E16  
= 662 64914B A97D25E19  
\* 664 01522D A96B04D22  
\* 690 01535D B03C02D16  
\* 695 01539D D25E11H01M14  
\* 714 01549D A96D16J01  
= 730 54396Y D22P3  
\* 731 01557D D22E13P3  
\* 745 01564D B04D16K08S03Q3R1  
= 749 79089B B04D16  
= 750 56404B B03C03D13  
= 751 72165X B04D16  
= 772 88682C B02C02D13  
\* 781 01574D A96B04D21  
\* 782 01575D C03D13  
\* 783 01576D D11  
= 784 39849Y D13  
\* 785 01577D D12  
\* 786 01578D D13  
= 852 24010B B04D13J04S03R1  
# 854 80990B A96B04D16  
= 902 75673B B04D16J04S03R1  
= 915 42487A A60D25E16F06  
# 920 84723B D22E14  
= 922 03828C D13E17  
= 923 33794A D23E15

## US 4240

\* 163 01660D A96B04D22P3  
= 164 39310B D15 + P2  
\* 186 01662D D22  
\* 267 01666D D15Q7  
= 376 11105A D15E36P1  
\* 397 01672D D11Q7  
\* 415 01673D A96D22P3  
= 416 68978A A87D22P3P7  
\* 436 01686D A96D22P3  
\* 447 01689D D18E13P1  
= 450 67034A A96D21 + P2  
= 578 84401A D15J01P4  
= 591 77233B D14P4 + P2  
\* 760 01710D A96D21P2  
\* 779 01713D D14P1  
\* 794 01717D A96D22P3  
= 800 40962B D17H03J01  
= 808 28060B D15E35H09  
= 832 60771C A96D21E33  
= 904 02342B D15  
= 905 79266C D15  
\* 906 01766D D15  
= 909 44395A A18D22J04M25R1  
# 911 61816B D15  
= 914 40894B A88D15J01 + P7  
= 918 33374B A97D25  
= 919 41937C D25E12  
= 920 64996B D25E19  
\* 921 01771D A97D25  
\* 926 01774D D22E13  
\* 937 01779D A96D22F01  
= 957 00113X B05C03D13E14  
\* 969 01798D D23E13  
= 972 54003C D23  
= 980 79391B D25E16  
\* 985 01804D D23E17  
= 990 85934B D15J02

## US 4241

= 007 79296B D22F04P3  
= 010 82930C D22P3  
\* 020 01823D D22S05T06P3R2  
\* 025 01824D D15  
= 039 29781B D15J01M25  
\* 049 01836D A96B05D21  
\* 061 01840D B02C02D13  
# 085 46773U C03D13  
= 089 89608A C03D13  
\* 090 01852D A97D13  
\* 091 01853D A97D13  
\* 092 01854D D13  
\* 093 01855D D13  
\* 094 01856D D13  
\* 095 01857D D14  
\* 096 01858D D13  
\* 097 01859D D13E13  
\* 098 01860D D13E17  
\* 099 01861D D13  
= 100 54986B D13  
\* 106 01866D D11  
= 179 14730C B04D16S03S05R1  
\* 180 01898D D16J04L01  
\* 181 01899D B04D16

## US 4241

= 182 66600B B03D16E13  
\* 183 01900D D17  
\* 184 01901D D16E17  
\* 185 01902D D16  
= 186 48398C D16  
\* 187 01903D D16  
\* 188 01904D D16  
= 214 76318T B03C01D22E12 + P3  
= 226 68495B A25D22E16  
= 227 84875Y D15J01  
\* 228 01926D D23E15

## WP 8002

\* 635 01940D D12  
= 636 84392C D13  
\* 640 01941D D21S05P3  
= 641 73500C A96D22P3  
\* 642 01942D B06D21  
\* 644 01944D D22P3  
\* 650 01946D D15J01X25  
\* 688 01960D A14D15  
= 694 90583C D16 + Q3  
\* 695 01964D D16  
\* 697 01965D A96B04D16S03R1  
\* 747 01983D B04D16K08S03R1  
\* 788 01985D D12  
\* 840 02004D A96D22  
= 848 00129D B04D16  
= 849 77096C D16J04S03R1